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ABSTRACT

This book contains 21 papers from the Nordic-Canadian Learning for the Workplace Conference, which was held in Hanasaari, Espoo, Finland in June 1995. The following papers are included: "Introduction to the Nordic-Canadian Learning for the Workplace Conference" (Olli-Pekka Heinonen); "Conference Design and Process" (Diane Abbey-Livingston); "From Training to Workplace Learning: Adult Education and Organizational Learning" (Diane Abbey-Livingston); "Excerpt: Adult Education in Finland" (presented by Jorma Ahola); "Issues of Work Transitions and Training of Older Workers" (Lisa Avedon); "Studying Employability Skills in an Open Learning Environment" (Eija Bergman); "Technology and Learning: Finding the Balance" (Elizabeth J. Burge); "Labour Leadership: The Training Trust Fund Model" (John Cole); "Now that We've Come to School: On the Glorification of Training" (Patrick Flanagan); "Don't Shoot the Messenger: Creativity in Education" (Janice Gillies); "In-Service Training: A New Challenge in Swedish Advanced Further Education" (Margareta Gisselberg); "Industrial Adjustment Services: A Participatory Process for Dealing with Change" (Joakim Hermelin); "Weaving a Masterpiece: New Ways of Living, Learning and Working Together" (Kathleen Howard); "International Recognition of Engineers: The EurEta Register" (Erkki Husu); "An Effective Way to Enhance the Employability of Unemployed and Active Workers: The Joint Employability Program" (Robert Isabelle); "Education-Business Partnerships in Finland" (Tuomo Lahdeniemi); "Information Technology Change Agent" (Bengt J. Lindstrom); "Distance Education at Work" (Betty Rohdin); "Summary: Education, Training and Research in the Information Society: A National Strategy" (presented by Helena Savolainen); "Education for the Sustainable Use of Swedish Forests" (Goran Sjoberg); and "Academic Wisdom and Practical Action" (Pam Whitty). (MN)

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Learning for the Workplace:
Nordic and Canadian Perspectives

Edited by Gail Taylor

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Learning for the Workplace: Nordic and Canadian Perspectives

A publishing project

coordinated by Elizabeth J. Burge

and edited by Gail Taylor

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Preface

This book is an outgrowth of the Nordic-Canadian Learning for the Workplace Conference held in Hanasaari, Espoo, Finland in June 1995. The conference was organized by KVS Institute (Kansanvalistusseura) with assistance from the National Board of Education, the University of Art and Design, Helsinki, and other Finnish adult education institutions. The Coordinator for the delegates from Sweden was Dr. Margareta Gisselberg; for the Canadians, Dr. Elizabeth Burge. Financial support was generously provided by the Finnish Ministry of Education.

The conference was planned as a sequel to an initiatory conference with similar objectives, held in Fredericton, New Brunswick, Canada in 1994. Both events successfully reinforced the importance of international cooperation, as well as the value of personal and professional connections. They stressed the need for new conceptual approaches and practical strategies in the education and training of today's workforce, building on the similarities in social, economical, geographical and cultural contexts between Canada and the Nordic countries.

In addition to the Finnish participants, eighteen delegates from Canada, Estonia and Sweden were invited to the 1995 conference, which was preceded by a cultural orientation program hosted by the Finns. International delegates were asked to write a formal pre-conference paper on one of the conference themes: employability skills; job competence and performance evaluation; credit transfer and worker mobility; creativity in education and workforce training; and the contextual factors which influence training. Presenters were asked to write about these themes in relation to one of the prescribed job sectors: information technologies and knowledge-based industries; natural resources; human resources; and arts and crafts.

In terms of making contacts and sharing information and solutions, delegates deemed the conference a resounding success. The pre-written conference papers were greatly appreciated by the Finnish participants, and international delegates were stimulated by the Finnish presentations. A climate of lively participation and peer respect characterized conference discussions. Another indicator of success was the decision of the Swedish delegation to continue discussions on workplace learning into a third conference to be held in Sweden.

International delegates, along with Finnish presenters, were offered an opportunity following the Hanasaari conference to revise their original papers with a view to publication. This book is the result.

It is with pleasure that we offer this record of the Hanasaari Conference as a bridge to span the practices of educators and policy-makers in the Nordic Countries, North America, Europe and elsewhere.

We acknowledge the generous assistance of the Finnish Ministry of Education in making this publication possible. We acknowledge too the skill, courtesy and perseverance shown by Gail Taylor, writer, editor and adult educator. Sonya Thursby of Opus House, Toronto, designed the layout with her usual talent and professionalism. Lynn Campbell completed the editing and final layout adjustments.

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HELSINKI • FREDERICTON • MAY 1996

Introduction to the Nordic-Canadian Learning for the Workplace Conference

by Olli-Pekka Heinonen[1]

The theme of a conference on learning for the workplace is, I think, a relevant and current issue for all industrialized countries, for several reasons. The widespread adoption of information technology strongly affects all sectors of society as it impacts on employment and organizational life; furthermore, within the organizational domain of work, the old hierarchical management modes are being dismantled and responsibilities distributed more widely. As a result of the removal of trade barriers, individual countries are more open and we are all at the mercy of international competition.

A critical component of the new Finnish government's program is to address the challenges implied in the principle of lifelong learning. I think it is a fact that in all industrial countries we have been speaking for at least ten years about this principle; however, I think that the reports of the Organization for Economic Cooperation and Development (OECD) are quite right to point out that we have not been able to realize this principle in practical terms to any significant degree in any OECD country. This does not mean that we should give up on the objective, only that it is necessary to be realistic and acknowledge the complexities involved in putting it into practice.

Our government is keenly aware of the possibilities inherent in the information network and its "highways". This means in practice that we want to provide all Finns with the basic skills they will need to function in an information society; accordingly, the entire education system must receive the necessary equipment to facilitate access to information networks. The topic of the information highway is very popular in the United States, Japan, and all European countries; we all talk a lot about the new technological equipment and other communication issues on the information side. But what we have discussed less up until now are the social implications of an information society.

I would like to broaden the discussion by speaking about a knowledge society rather than an information society, because it is true that the technical orientation of the discussions so far has also applied in Finland. It seems to me that if we want to talk about a knowledge society on a large scale, it really means that we need to provide every member of such a society with ways of handling knowledge, which is not a question of skills and information learning so much as it is a question of attitude.

I myself have problems in this regard; for example, when I am using the Internet, I ask myself "Where am I?"—and this is not a question of usage, but rather an inquiry as to how the technology actually works. It is this lack of understanding that makes it hard for me to use the Internet. As I see it, this is not so much a problem for young people who have grown up in a world where the Internet is in place; but it is a challenge for people like myself who were raised in the world before the Internet. For others like me, learning probably also means a certain amount of unlearning.

The information changes constitute an enormous challenge for education in general and in particular, for the purposes of this conference, for workplace learning. Somebody I met a couple of weeks ago said that things looked bad because we don't know how the world is changing; nothing is the way it used to be—not even the future! And although it made me laugh, there is a lot of truth in it too. The future is changing so fast that we cannot anticipate what will happen, which means we have to be flexible and open and informed. Of course, working in the education sector, we must also try to find ways of being effective in a world where constant change is the norm.

In an effort to focus some of these challenges, I have come up with six areas of competence which form a set of qualifications for educators of the future. The first one concerns the ability to process our view of the world by continuing a pattern of learning throughout our lives. Although "continuing education" is one of the prominent themes in adult education, I prefer the phrase "learning through education." Global competitiveness requires the development of both operational and strategic capabilities; for example, individuals need both work-related training and more general continuing education. They need lifelong learning as well as work-long learning, an approach that would include such things as basic education, incremental continuing education, graduate and post-graduate studies, and job- and work-related general studies. All such training and education requires an attitude of curiosity towards the evolution of society and work.

Lifelong learning is a way to systematically update and upgrade competencies; in fact it is a form of human recycling that is necessary when an occupation vanishes. Frameworks and solid goals are needed to make lifelong learning structured and accessible for individuals and allow for learning to take place alongside the education that is provided by a university or other educational institution. Studies are needed that look at team learning in the workplace as well as self-directed, computer-based training. Such a framework must be international in scope, because employers wish to provide employees working in different countries with access to self-directed, competence development. Public educational institutions can play a key role in providing a framework for lifelong learning by coordinating structures and procedures; they can also provide accreditation, diplomas and degrees, and facilitate the transfer of these to support the mobility of employees. Certificates, diplomas and degrees are the milestones of lifelong learning.

The second recommendation is that both in employment and during free time there should be an understanding of how to manage interrelationships, which entails learning how to think and acquiring problem-solving skills.

The third point of focus for competencies concerns a mastery of basic knowledge and skills. We will have to work with an aging workforce for a

long time to come, which means working with individuals who received their education and training a long time ago and whose competence is often inadequate for present needs. In conditions where change is slow, it is possible for workers to manage with the additional knowledge and skills that can be acquired on a job; but when the change is as rapid as it is now, deficiencies in basic knowledge and skills turn into an obstacle that seems to be difficut to overcome—no matter how many training courses are taken.

The fourth qualification is one of interactional curiosity, a sense of responsibility for one's future, and a positive self-concept which results in strong self-esteem. We have seen how low self-esteem can preclude the benefits of a good education, so the first task for educators and trainers must be to build a healthy self-esteem; the inability to assimilate a demanding vocational education can often be traced back to a burden of school-based failures. In this regard it is worthwhile to underline the importance of all stages of education, because early schooling must bolster the student's positive self-concept as well as the notion that studying can be a positive and enjoyable experience, otherwise the job of adult education is compounded in difficuty.

The fifth competence needed is a holistic view of the world, which also involves the question of national identity—the ability to see oneself in relation to a more global environment; of cherishing one's own values but also respecting those of others. And last but not least is the need for a range of good communicative skills, of which language proficiency is but one aspect.

This list of competencies does not refer to general or vocational knowledge or specific skills, nor does it contain any one subject as such. This is because I see these qualifications more like threads winding their way through the whole learning process.

There is a story which I believe illustrates the magnitude of the challenges we are now facing, a story about one of the most famous scientists in the history of mankind, Professor Albert Einstein. In one part of his life, Einstein was an honoured university professor who had his own assistant. One day the assistant came to his room and said "Honourable Professor, if I dare say so, I'm afraid you have some problems with your memory, because I saw the questions you were going to ask in next week's test and they are the same questions you asked last year." Albert Einstein answered his assistant, "My dear assistant, there is no need to worry about my memory. It is true that the questions are the same, but during the last year I have changed the answers."

In our time, too, things are changing with such speed that the answers are also in a state of continuous flux. It is my hope that the cooperation demonstrated by participation in these international conferences will help to achieve success in addressing some of the many challenges we all face.

Editor's Note

1. This is a revised version of a speech which opened the conference in Hanasaari. At that time, the Finnish government had been in power for just three months. Mr. Heinonen is Minister for Education and Science.

Conference Design and Process

by Diane Abbey-Livingston

The second Nordic-Canadian Conference on Workplace Learning was held at the Hanasaari Cultural Centre in Espoo, Finland, from June 14-16, 1995. Conceived as a sequel to the original Fredericton, New Brunswick conference (Spring, 1994), this event was somewhat less structured than the traditional expert-centered model used in many conferences and followed in the footsteps of the first event. Both conferences were based on innovations designed to empower participants and support the diversity of learning styles which characterize any gathering of adult learners.

Background to Conference Design

So what were the roots of the conference and what models and theories informed its design and conduct? The Hanasaari conference, in fact, adopted a learning approach that combined some elements from a traditional "learned society" model with those intrinsic to the equally traditional "marketplace" model. From the time of antiquity, people have come together to learn from each other, for purposes as wide-ranging as intellectual growth and self-expression, intelligence-gathering, and the trading of products, services and ideas.

In the marketplace model, learning activities were informal, irregular and self-organized while those which took place in a learned society involved regular, formally structured meetings. The "marketplace" typified the learning which occurred when groups of people gathered together in informal settings such as a village meeting hall or a town market place. The "learned society" was an organized group of like-minded people involved in the pursuit and dissemination of knowledge, a group which also provided an identity, companionship and sometimes protection for its members.

While marketplaces were seldom seen as institutions of learning, it is clear that much learning happened there, often in planned though self-directed ways. Teaching, similarly, was not associated with marketplace activities but the discursive practices involved in demonstrations, speeches, discussions, even the telling of stories and parables, were powerful processes for disseminating ideas and winning commitment to them. By contrast, few learned societies would have advertised themselves as places to "sell" ideas; most members, however, probably would have agreed that winning commitment to their ideas constituted a major goal of their meetings. Learned societies more likely would have described their meetings as opportunities to disseminate knowledge or "truth" through presentation

and debate. Truth-seeking through debate, however, created tensions which affected both the quality of discussion and the self-esteem of presenters.

Both the learned society and marketplace models of collective learning are alive today; however, each has serious flaws. The marketplace, for instance, can be chaotic, lacking control of the quality of both the information offered and the dialogue among emerging special interest groups. The learned society, oddly enough, suffers from some of the same limitations which emerge, not from a lack of control, but from the authoritative control of a few experts.

These days, the challenge in designing large-group learning of any kind is to develop shared frames of reference—which the presentation of papers at conferences can provide—while trying to develop the sense of personal freedom, responsibility and satisfaction which marketplace visitors once derived from informal learning at the village centre. And though it may seem odd to refer to these older forms of collective learning in a description of this conference, I do so to remind us of our rich and varied history and to contextualize some of the problems inherent in planning large-group learning anywhere.

In the 1960s, as theory about adult learning processes became more widely known, the "emergent design" approach to planning began to proliferate in adult education classes and conferences in North America. Today, conferences based on open space technology (Owen, 1992) reflect the marketplace model with its emphasis on individual choice and the spontaneous development of discussion, and on the use of the circle as the organizing structure through which total group activities take place and small group activities are initiated. Individuals identify the issues they want to discuss, schedule when and where they will meet with others, and decide what they want to do in their small groups. After some discomfort with the lack of traditional structure, most people adapt quickly and find this type of conference stimulating and productive.

A contemporary example of marketplace learning would be "surfing" the Internet, an activity in which users seek out and join discussion groups that interest them. Bulletin boards and Websites allow both individual learning and group interaction; as in the marketplace, everyone has a chance to participate.

Academic and educational conferences are still largely modelled along the lines of learned society meetings, except that the contemporary version often involves less interaction and less heated debate. The role of information dissemination is also less important today, since other media have quite efficiently appropriated this function. Nonetheless, this model can be seen as valuable in terms of creating a shared frame of reference for understanding and sharing ideas and experience.

The learned society model offers an expert- or leader-centered structure for learning, in contrast with the learner-centered marketplace format. While most formal schooling, corporate training and corporate cultures are expert-based, many of the living skills we value come from learning in the "streets" and corporate hallways of life—the contemporary equivalent of the village marketplace. Because the leader-centered approach is so deeply entrenched in our institutions and organizations, we are challenged to

recognize and use the learner-centered approach in the service of individual and corporate goals.

The first Nordic-Canadian Conference held in New Brunswick was designed to provide a combination of learner- and leader-centered activities. Conference participants were encouraged to respond to a diversity of learning styles and to create a climate that would empower the learner and provide spaces where people could connect with each other and explore issues in less structured ways than many had previously experienced.

Conference Purpose and Composition

Building on the theme of learning in the workplace, as well as on the design of the New Brunswick conference, organizers identified multiple purposes for the Hanasaari participants:

- To expand our understanding of learning in the workplace in light of current issues, approaches, and concerns about the future;
- To extend our capacity to provide relevant responses to the challenges facing our organizations, our countries, our students and ourselves;
- To demonstrate multi-disciplinary and collaborative approaches for solving difficult workplace and societal problems by modelling these approaches in the conference; and
- To provide the same consideration for ourselves as for others, in terms of respecting and promoting diversity in learning and cultivating responsiveness to others.

Participants at the second conference included researchers, designers, administrators, teachers, and organizational development specialists. All brought extensive experience to share and significant questions to pose and discuss with others. In light of such rich resources and the goals of the conference, the combination of both the learned society and marketplace models was an appropriate fit.

Range and Inclusiveness of Proceedings

The leader-centered portions of the conference took the form of short presentations of ten-to-fifteen minutes followed by a brief question-and-answer period. Presentation topics were identified prior to the conference and papers ranged from research and theory reports to the critical examination of workplace challenges and innovative programs. Themes for presentations spanned the following topics:

- Employability skills
- Contextual factors in learning
- Creativity in education
- Job competence and performance evaluation, and
- Entrepreneurship in training

The learner-centered portions of the conference took the form of discussion groups that emerged around themes identified by participants. Theme-centered groups convened five times over three days. While a full listing is not possible, the following reflects the scope of the topics addressed in these discussion groups:

- The importance and the challenges of building self-esteem in learners
- Evaluation models
- Organizational change projects
- Labour education
- Job analysis
- The role of the university in workplace learning

Process Dynamics

In order to tap the human resources and potential energy available during the Conference, participants had to attend to three basic factors that exist in every interactional group (Cohn, 1969-1970). These three factors are the "IT", the "I" and the "WE."

- The "IT" is the topic or focus around which individuals gather, a focus that lends a meeting its legitimacy. "IT" describes what participants expect to see, hear about, and discuss.
- The "I" is the set of personal needs that individuals bring with them, including what they want and do not want from the conference, how they prefer to learn, and how they are most comfortable interacting with others.
- The "WE" reflects the reality that people in a collective setting do not act as solitary individuals but rather interactively and in collaborative relationships.

Each of the three factors can be conceptualized as one corner of an equilateral triangle in which equal importance is given to each as well as to the relationships between and among them. People are aware of all three aspects of their reality. Full attention to any one for an extended period of time will detract from needed attention to the other two. For instance, total immersion in the "IT" would fail to serve the needs of those for whom meaning is created through discussion (the "WE"), or through solitary thinking about what was heard (the "I"). Similarly, spending too long in the exchange of opinions with group members (the "WE") would work against the needs of participants looking for expert input (the "IT") or the opportunity to explore theory in depth (the "IT").

The awkwardness that people feel at the beginning of a conference or workshop can be attributed to the fact that they have not yet had the opportunity to experience a reasonable working balance of the elements represented in the triangle: personal needs (the "I"), the needs of others and the group (the "WE"), and progress towards the stated purpose of the conference (the "IT"). What follows are examples from the first morning of the conference which demonstrate how attention was evenly distributed along the lines of the triangle. The agenda item or activity is followed by design rationale:

Wecoming Remarks by representatives from each country;
Opening Comments by a distinguished public figure; and
Review of goals, assumptions, agenda, and formats for activities.

The "I-IT" connection: To meet personal needs for safety and security, opening activities affirm what people expect, honour past traditions,

reinforce the importance of the event as a whole and the presence of participants, and provide time for people to settle in without the demands of performance-oriented activities.

Individual Introductions in small groups.

The "I-WE" connection: Introductions in small groups provide time to address the unspoken questions people have about each other. People wonder about the "WE": Who else is here? Will I enjoy them, learn from them, be valued by them? Will I fit in? Will I be psychologically safe or will I be laughed at? These concerns begin to abate as people start to converse in meaningful ways. Creating a climate which can support candid and thoughtful dialogue requires more than the perfunctory exchange of names, job titles and companies. The beginning stage of "forming" relationships is essential to the later stage of "performing" in groups (Tuckman, 1965).

Small Group Task to discuss what "Workplace Learning" means to group members.

The "WE-IT" connection: People do not immediately know what the "IT" means to others. A wide gulf must often be spanned before people can understand and appreciate the meanings that particular words have for different people. This is true whether participants speak the same or different languages. The skill of promoting dialogue that will reveal similarities as well as differences in understanding and values is one that is considered crucial to the success of organizational learning (Senge, 1990).

Small Group Reports on flip charts about meanings associated with the term "Workplace Learning".

The "WE-IT" connection: By hearing about the different meanings discovered within each small group, the total group begins to develop a shared understanding of these differences and of personal experiences that created them. These shared reports model and reinforce the concept of variety and reveal the "WE" as being highly diverse, interested in differences, and creative in modes of self-expression.

As part of monitoring the balance among the "I", the "WE" and the "IT" and of designing the flow of activities as the day progressed, participants were asked to provide frequent feedback on their experience, satisfaction and needs. This feedback was made verbally in group sessions and in writing at the end of the first day. As a way to expand the shared frame of reference, this information was summarized and reported back to the conference—a practice which served to affirm that expert theory and the collective experience of participants were equally important.

The balancing of the "I", the "WE" and the "IT" is not always easy to do, just as it is not easy to respond to all learning style preferences. At moments, the balance was undoubtedly skewed; however, the conference achieved an overall balance that was valued.

Participants responded to the papers that were presented by asking for increased question and dialogue time—a testament to the stimulating nature of the presentations and a fine outcome for the learned society model. Group discussions were termed thought-provoking as well as fun, and groups lingered well beyond the designated times, which pointed to the effectiveness of the portion of the conference that was based on the marketplace model. The international participants appeared to view one another as rich and continuing learning resources and the conference left everyone wanting more.

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From Training to Workplace Learning: Adult Education and Organizational Learning

by Diane Abbey-Livingston

The lack of dialogue and collaboration between trainers and organizational development specialists has serious effects on those organizations which could benefit from a team focus on concrete workplace problems. This paper deals with the case study of a planned change in the workplace, and illustrates the concept of organizational learning as well as the applicability of adult education theory and methodology to organizational problems. The case demonstrates the impact of training when it is applied in real time to real workplace problems.

Educational approaches are described that are directed to the achievement of two outcomes: (1) the development of solutions to identified organizational problems; and (2) the development of systems for continuous learning. The case raises important questions for further discussion:

- How can we encourage and support collaboration between trainers/adult educators and organizational development specialists?
- How can we best contribute to sustained attention to organizational learning?

ORGANIZATIONS AND LEARNING

The Value of Training

For educators, the most interesting current trend in North America is what I call the love-affair with learning. Typical of what we see in the media is this excerpt from the Harvard Business Review:

> In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. When markets shift, technologies proliferate, competitors multiply and products become obsolete almost over-night, successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products (Nonanka, 1991).

Although the attraction to learning during this stage of the love-affair is strong, I think it is still too early to tell whether the relationship will move past infatuation and into a stage of more stable commitment. For instance, will we invest the necessary time and resources to move past quick-fix

courses and into the more mature creation of system changes, enabling people and organizations to transfer the skills they learn in classrooms to daily work?

There are many who question the value of training as it is currently employed at various organizational levels. A study of the chief executive officers of three hundred Canadian companies revealed a low assessment of the learning capacity of their executive teams, and dissatisfaction with public seminars and training programs (Snetsinger, 1994). The transfer of skills from classroom to workplace is a perennial challenge in such core areas as management, supervision and communications.

Those who question the value of training would have us shift our focus to learning instead:

> Learning businesses need to move away from a focus on training to an emphasis on learning—and this is not some semantic issue but one of fundamental importance. Training is owned by the training department: learning is owned by each person, each manager, each group, and by the whole organization (Cunningham, 1994).

In particular, we are encouraged to shift our focus to learning on the job:

> As important as formal training can be, it never seems to be the central ingredient in development....It may be rather obvious that if people spend 98-99 percent of their work time on the job, and only one or two percent (at most) in formal training, that most learning must occur on the job (Kotter, 1988).

Organizational Learning and Training

A relatively new concept, organizational learning is described in a variety of ways, but it is generally agreed that three characteristics distinguish it from training. Organizational learning:

- Focuses on system learning, the processes by which systems (groups of people) acquire, make meaning, create and disseminate knowledge. System learning is about the individual and social and technological processes that build bridges between knowledge creation (theory and learning), and experience (action);
- Draws attention to the assumptions and beliefs which underlie current practices and ideas for the future; and
- Provides for skill training on an as-needed basis, especially in the areas of problem-solving, planning, decision-making, thinking skills, research skills, and teamwork.

The features of adult education shared by both training and organizational learning include needs assessment and the design of both learning sessions and learning materials. Both modes use a variety of learning activities such as group discussion, one-to-one conversation, lectures, films, presentations, case studies, and computer-based training. The principles and practices of adult education form the core of both effective training and organizational learning.

There are key differences, however. School learning and training in general are designed for individuals and delivered in classrooms by trainers or other specialized resource people; whereas organizational learning is directed to teams of people who meet in formal and informal gatherings and learning processes are developed and supported by managers and the team.

Training views knowledge as arising from theory and research and focuses largely on transmitting what is already known in specific subject areas. In organizational learning, knowledge is created by the team and the agenda for learning emerges, not from subject areas, but out of the problems and plans of a particular work unit. By emphasizing the ways in which adult education principles and practices can be applied to organizational learning as well as to the field of training, links can be recognized and strengthened between the two fields.

The case study highlighted here focuses on organizational learning and the application of adult education theory and practice to the concurrent development of skills and problem-solving.

CASE STUDY: ORGANIZATIONAL REVIEW AT NATIONAL LEVEL

In this case a large, not-for-profit organization serving women and girls was experiencing problems that concerned the roles of senior staff and volunteers. An Organizational Review Committee (ORC), responsible ultimately for making recommendations to the national Board of Directors and senior national staff, explored role definitions and discovered issues of a broader nature which involved the structure and mandate of the organization at its national level.

Choosing a Mode of Consultation

A consultant was asked to undertake an organizational review with the prospect of recommending structural change. The senior team solicited proposals from the consultant and received responses which could be classified in two ways:

- Expert-centered: in which experts in organizational design, structure, governance, strategic planning and so on, study the issues, gather information, and make recommendations; and
- Organization/member-centered: in which members of the organization, with guidance from an expert, study the issues, gather information, participate actively in developing options and recommendations, and help their peers learn enough to give informed opinions and make knowledgeable recommendations.

The second type of proposal was chosen, with these objectives in mind:

- To cultivate widely-shared perceptions of current problems and more open communications;
- To enhance understanding of issues and encourage a high level of involvement in the development of options;
- To develop jointly agreed-to criteria for evaluating options and making informed choices;

- To derive satisfaction from the process of learning, evaluating options and making decisions; and
- To encourage acceptance of workable, useful changes.

The proposal chosen addressed not only the particular problem outlined but also looked at the need to strengthen the organization's capacity to deal with future processes of problem-solving. Five key concepts were employed in the learning strategy adopted for this study:

1. Learning was the frame for problem-solving, planning and decision-making.
2. Principles of adult education and action research were used to design the learning processes.
3. The content/topic areas for learning included: perceptions of the current situation and desires for the future; assumptions about the rationale for past and present ways of doing things; best practices in organizational management and structure, governance, and specific program areas; and learning about learning or how individuals and groups were gathering and using information, including information about their own ways of constructing reality and dealing with emotions.
4. Learning processes were designed to develop shared frameworks, as well as a capacity for considering divergent views.
5. The learning group included as many people as possible from the organization, especially those who would be affected by change.

The Roles of the Consultant and the Committee

The organization faced the normal issues that emerge in any organization when it first acknowledges the need for change: ambivalence, and a lack of ownership of the problems. In addition, the organization was justifiably proud of its past successes—which increased the resistance to change—and had been experiencing a sense of confusion about how to address the current situation. There was a growing mistrust of people who held different views about a desired future; and the organization knew of other organizations facing similar problems which had obtained "expert" help with less than satisfactory results.

Having chosen an organization/member-centered approach, the ORC then used the consultant to help them learn how to study the issues, develop models of organizations and present these to their peers, facilitate small group discussion during meetings of the national board, and act as learning partners for these board members.

The major role of the consultant was to keep the focus on learning by:

- Affirming the capacity of individuals and groups to learn what was needed;
- Suggesting systems to support the learning of those who were not at meetings;
- Guiding the development of surveys and coaching on interviewing skills and strategies;
- Affirming group facilitation skills and providing additional coaching;
- Supporting critical enquiry and reflection;
- Providing ideas and guidance on designing learning events, such as study days;

- Facilitating learning about organization change processes, organization design and governance;
- Shifting the paradigm of presenting information in a reporting function to presenting information as a resource for learning and decision-making; and
- Guiding the overall process.

What Was Done

The process involved a cycle of five recurring learning activities:

1. The ORC initiated a collection of opinions from members of the national board, senior staff and other key informants and stakeholders.
2. The information collected was summarized and developed into Learning Workbooks that reported survey results and provided theory and information from other organizations.
3. Learning Workbooks and appropriate support materials were distributed to board members and senior staff in preparation for study days.
4. Study Days were conducted at which information, theory and applications were discussed and models for change were developed.
5. Based on the proposed models for change, the process would begin again with #1, until a final model was approved for implementation.

In fact the process in this case moved through three cycles (from #1 to #4) before moving to the final stage. In the process, the organization developed its capacity to learn from its own actions—a key characteristic of a learning organization.

Three surveys of board members were conducted. The first inquired into the appropriate areas for board decisions, which had been a large area of disagreement and discontent. The second survey focused on beliefs and assumptions concerning the purpose of current practices. The third survey asked board members and senior staff to evaluate three alternative models for restructuring at the national level.

After each survey, a workbook was prepared to serve as a teaching document for all members of the national board. Four workbooks and a final report were developed over the course of eighteen months and addressed the following learning goals:

- To create a holistic picture of the organization by providing people with a view that was broader than that of any single individual;
- To heighten an awareness of the current strengths and weaknesses, assumptions and wishes as seen by different people;
- To encourage people to use data as a way to view their personal opinions and/or projections within a context of collective views;
- To provide information on relevant topics, creating shared frames of reference;
- To report on how other organizations were addressing similar issues;
- To demonstrate respect for past practices; and
- To encourage the use of collective data to inform decision-making.

For example, the third workbook, outlining four alternative models for organizational restructuring, was used as the basis for the third Study Day.

Learning about three models (plus the current one) dispelled the myth of the existence of "one right answer," and enabled the ORC to recognize the limitations of any one model in resolving tensions between equally desirable goals. The process of comparison stimulated dialogue and helped to develop a functional understanding of organizational design issues and structures.

The third Study Day was followed by the learning process outlined above, and the fourth workbook reported the results of the survey on the alternative models as well as identifying broad principles for a final model.

In keeping with the emphasis on learning, all ORC meetings were designed as learning events, addressing these questions:

- What have we learned about the issues in question and about our ways of working?
- What beliefs and assumptions underlie the way we are working and the plans we are making?
- What do we need to learn next? How can we make our learning methods more effective? What does the national board and senior staff need to learn next? How can they best learn this?

Information was used as a basis for engaging the rest of the organization in learning. Opinions were treated as important information as well as a needs assessment for focusing content and skills required in further stages of planning and problem-solving. The National Board and senior staff met three times for study sessions in which workbooks were used in much the same way as reading materials might be used in a training event. Each of these sessions was also designed as a learning workshop.

Summary of the Case Study

This case study described a cycle of action research (posing questions, gathering information, reflecting on the experience and on the results) undertaken for the purpose of engaging the whole organization in learning about its current situation and possible future scenarios. Principles and practices of adult education informed the processes used for each meeting and throughout the cycle.

The case illustrates eight organizational learning processes that support learning at the system level (Dixon, 1993). The processes involve intentional strategies to:

- Generate holistic views of the organization;
- Attain and use information from the external environment;
- Encourage the development of innovations and new knowledge;
- Learn from alliances with other organizations;
- Retain and retrieve organizational memory;
- Clarify and communicate successes and failures;
- Solicit and provide direct performance feedback; and
- Question the organization's assumptions.

Wins and Losses

The methods and systems used over the eighteen months in this case demonstrated a way of working that could be seen by people at all levels of the organization to be valuable. Feedback given at the end of meetings

as well as evaluations conducted at the end stages of work and again at the end of the project were all positive about the products developed, the processes used, the new relationships formed, and the skills developed.

People acted with intention and care while working within a learning framework. They had well-developed communication and group work skills. In the tension between the amount of work to be done and the time to do it in, will the practices so central to learning organizations erode? In meetings, will covering a specific agenda item overshadow the value of listening carefully to different viewpoints and reflecting on current practices? Time will tell.

QUESTIONS FOR CONSIDERATION

In circling back to some of the key questions raised by this study and in consideration of closing the gap between traditional training and organizational learning, we need to consider how to better support the use of skills already existing within organizations. Using the case study reviewed here as an example, it was found that many people were already very knowledgeable about communications and group process. However, since they had not been using these skills either in peer group meetings or in forums involving senior levels of personnel, the consultative process provided a valuable opportunity to practice and legitimize their use.

Within the current climate of restraint, the question must be raised as to how to support skill development and practice in targeted areas of organization learning. Organizational guru Peter Senge writes about five essential disciplines in which to build understanding, skills, tools, and strategies; these include systems thinking, personal mastery, shared visioning, team learning, and the examination of mental models (Senge, 1990).

Looking critically at the case study in light of these disciplines, it is possible to see that there was not enough time spent on learning about how participants were learning, or on the mental models in use during discussions, or on the value of this kind of focus. The learning processes in use were effective for the development of personal and collective vision, stronger team learning skills, discussions about perceptions and assumptions, and focusing on the system. Time constraints meant that there would be some inevitable deficits in the development of all necessary understandings and skills.

So more resources are needed, in the form of extended time frames and greater support. In the longer term, the skills on which organizational learning are premised could be developed through specific training by departrnent staff or managers. What is essential is that the knowledge of key players is developed and reinforced within a context of working teams—which until recently has been the exclusive focus of organizational development specialists rather than trainers.

In the past few years, training and organizational change initiatives have not been planned to support each other to the degree necessary for optimum and lasting impacts. Each field, however, has accumulated some significant learnings from their separate journeys. We must strive for cross-fertilization of ideas and collaborative effort that will transcend these separations and integrate the best of both worlds to the benefit of all.

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Two excellent resources on the subject of learning organizations are:

Belden, Ginny, Hyatt, Marcia, & Ackley, Deb. (1993). *Towards the learning organization: A guide*. Copies can be obtained by contacting the authors at: 2128 Sargent Avenue, St. Paul, MN, USA, 55105-1127, Telephone: 612-698-7799 or Fax: 612-698-1873.

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Excerpt:
Adult Education in Finland[1]

Presented by Jorma Ahola

GENERAL INFORMATION

Finnish adult education can be grouped into basic (initial) general education, basic (initial) vocational education, supplementary (continuing) vocational education and liberal education.

Adults are also offered the same kind of basic education—vocational, general and higher education—as is provided for the young... Adults who are, or have been, in working life may profit from supplementary vocational training which aims to maintain and improve their professional skills.

The various forms of liberal education (organized by folk high schools, adult education centres, study centres) give adults the opportunity to enhance their general education and civic skills. The most common form of adult education is supplementary vocational education.

VOCATIONAL ADULT EDUCATION: SOURCES OF FINANCE

Vocational adult education can be grouped, according to the sources of finance, into self-motivated training, employment training and in-service training. Liberal adult education is primarily self-motivated education.

Self-Motivated Vocational Training

The purpose of self-motivated vocational training is to give adults the opportunity to develop their professional skills independently of their employer. Training raises the professional qualifications of the labour force and furthers the structural change going on within the labour market. Self-motivated training is mainly organized by vocational institutions.

The costs of vocational basic and further training furnished by vocational institutions are shared by the state, the student's home municipality, and the relevant institution—sometimes the student also pays a moderate fee.

The costs of supplementary training are primarily covered by the student, and to a lesser extent the state.

In self-motivated training students seek entry to the institutions on their own initiative.

In-Service Training

In in-service training the employee is trained according to the requirements set by the company's own operational strategies. In-service training is

mainly short-term supplementary training. Usually expenses are covered by the employer; the employee receives his or her normal salary for the time spent in training. Partic-ipation in this training is decided by the employer.

Apprenticeship Training

Somewhere in between self-motivated training and in-service training is apprenticeship training. Apprenticeship contracts are concluded both in initial and further training. Most of the training is on-the-job instruction organized by the employer. Theoretical studies complementing the apprenticeship period are generally offered by vocational institutes as separate courses. The state covers the expenses of the theoretical studies and remunerates the employer for the expenses of on-the job training.

Apprenticeship training requires an employment contract between the employer and the trainee. The employer may conclude an apprenticeship contract with an old employee, or engage a trainee from outside the company. Local educational authorities will assist in drawing up the contract.

In Finland apprenticeship training is a rather rare form of acquiring vocational qualifications; it accounts for only about 5% of basic vocational training.

Employment Training

Whereas self-motivated vocational training is designed to meet long-term educational needs, there is an evident demand for short-term training for adults which meets the changing needs and requirements of the labour market. The aims, content and length of employment training (labour market training) vary greatly; it includes vocational basic and further training, and preparatory courses for people entering the labour market.

Employment training is primarily financed by the employment authorities. The training is intended for the unemployed and those in danger of losing their jobs. The employment authorities buy the training from educational institutes, and to some extent also from commercial organizations. Employment training may also include joint ventures by the employment authorities and employers.

TEACHING IN ADULT EDUCATION

In recent years special attention has been paid to distance teaching and flexible teaching arrangements, technical teaching-aids and support services for mature students. The arrangement of courses and the choice of teaching methods are guided by the students' life situation and abilities for independent work. Students are given credit for previous studies and work experience; these will also shorten the student's personal study schedule.

In addition to full-time studies during the day, mature students may choose evening courses or courses alternating between distance and contact teaching. Compared to teaching for the young, teaching for adult students is more intensive and demands greater abilities for independent study at home or at work.

Programmes for mature students may include work practice; labour market training in particular lays a heavy emphasis on practical training.

BASIC VOCATIONAL EDUCATION

Self-motivated basic vocational training is provided primarily for adults over 25 years old and labour market training for adults over 20.

Basic vocational training is offered to adults who did not acquire any vocational qualification when young. Also, adults who wish to transfer from one profession to another may do so through basic vocational training. Further motives for entering vocational adult education might be upgrading one's qualifications and career advancement. A large number of adults, who for reasons of health or employment must change professions, seek entry into labour market training.

Tripartite System of Qualifications

Most programmes in vocational training lead to a diploma. The system of vocational qualifications contains about 250 diplomas in various fields. The system of qualifications consists of three levels: (1) school-level certificates give students the qualification of a skilled worker; (2) college-level diplomas qualify students for supervisory and planning posts; (3) higher vocational diplomas or degrees qualify students for planning and managerial posts.

Vocational adult education includes school and college-level, as well as higher vocational education. The qualifications are the same as for the young, but there are also diplomas designed for adults only. These adult examinations cover fields that are, for health or other reasons, regarded as so demanding that training young people for them is not appropriate.

Most vocational training for adults is intended for people who already have a vocational qualification. Adults who have completed the comprehensive or upper secondary school are also offered vocational adult education.

Vocational qualifications are grouped according to occupational sector: (1) primary production: agriculture and forestry; (2) technology; (3) commerce and administration: business and administration, hotel and catering services, cleaning services, home and institutional economics; (4) social services and health care; (5) culture: craft and design, media studies; (6) other. Most adults in basic vocational training can be found in the fields of health care and social work, commerce and marketing, and technology (electrical engineering, mechanical engineering, construction technology). The same programmes that are provided for the young cannot be offered every year to mature students.

Since there are great regional differences between the programmes geared to adults, many mature students complete their vocational qualification in institutions and programmes catering for the young.

Teaching

Each student is assigned a personal study schedule which takes into account his or her previous studies and work experience. The contents of the teaching concentrate on the most relevant issues pertaining to professional skills. Teaching in the programmes for adults is more intensive than in the programmes for the young. Depending on the student's previous qualifications and work experience, and the level of the institute, obtaining

a vocational diploma by full-time study takes between one and four years for adult students. On the average, the programmes for mature students are a year shorter than the programmes for the young. Teaching may be arranged as night courses or in periods. Usually the programmes involve supervised independent study at home or at work.

It is also possible to complete a vocational diploma as a private student by passing practical skills tests and taking examinations at the relevant institute.

Participation

Annually, about 0.8% of the population between the ages of 19 and 64 participate in self-motivated basic vocational education. About 0.1% of the adult population obtain a basic vocational qualification in apprenticeship training, and about 1.7% in labour market training.

Competence-Based Examinations

There are plans to adopt a system of competence-based examinations for adults in which professionally competent adults could demonstrate their skills and abilities. The examination would be open to all, regardless of how the professional skills have been acquired. In this examination adults would be able to make use of the practical experience they have gained in their profession. Skills that have been acquired through work, hobbies and other activities would be considered alongside skills acquired through studies. The first competence-based examinations as part of studies leading to a diploma were held on an experimental basis in school-level institutes in 1993.

POLYTECHNICS: THE EXPERIMENT

In 1991 an experiment with a new type of higher vocational education—the polytechnic—was launched in Finland. The experiment, lasting until the end of the decade, will be decisive as regards whether this type of institution will become a permanent part of Finnish vocational education.

During the experiment, temporary polytechnics will train qualified professionals for planning and development and managerial positions. The minimum length of studies is three years. In some programmes the students may incorporate courses from several institutions into their degrees. Compared with traditional university education, studies in the polytechnics are clearly more profession-oriented.

Education offered by the polytechnics is organized into degree programmes that are confirmed annually by the Ministry of Education. The extent of the degree programmes varies between 120 and 160 credits, and they may include specialization lines. (The term credit refers in Finland to an input of approximately 40 hours of work by the student.) The degree programmes consist of basic studies, professional studies, an end-of-programme project and practical training. The programmes include compulsory, elective and optional courses.

Participation

Most of these experimental institutions offer training for young people, but there are also some programmes open to mature students.

HIGHER EDUCATION

The basic degree offered by the 17 institutions of higher education (universities) and four art academies in Finland is the Master's degree. The lower academic degree, the Bachelor's degree, can be taken at seven of these institutions; a number of universities are currently in the process of reinstating the Bachelor's degree in the arts and natural sciences. Postgraduate degrees in the arts and sciences are the licentiate and the doctorate. In the field of medicine there are also some professional postgraduate degrees defined by special decrees.

Higher education is primarily intended for young adults, but a growing number of university students are mature adults: about a fifth of first year students are over 25. Some universities are experimenting with flexible teaching arrangements for adults, but the most common form of academic studies in adult education is the open university.

In the open university adults are able to pursue university studies irrespective of their basic education. Examinations in the open university are considered equal to university examinations and credits earned in the open university can be incorporated into a university degree.

Participation

During recent years, the popularity of the open university has been on the increase. In 1992 the number of open university students was about 50,000, and the number of students studying for basic degrees in the universities and other institutions of higher education was about 100,000.

SUPPLEMENTARY VOCATIONAL EDUCATION

Supplementary vocational training is, for the most part, training designed to maintain and develop professional skills. Often the training is made up of a course lasting a few days. The most popular fields are information technology, and business and marketing.

Supplementary vocational training can also be further training for a more demanding job. Further training usually lasts for a few months, the most common fields being technology (electrical engineering, mechanical engineering, construction technology), commerce, production, and health care and social work.

Supplementary vocational training includes in-service training, labour market training and self-motivated training. In addition, it is offered in the form of apprenticeship training lasting between four and twelve months.

Participation

Annually, 0.3% of the adult population between the ages of 19 and 64 take part in vocational further training (extension courses arranged by vocational institutes) and 12% in supplementary training. The annual percentage of adults in university-level continuing education is 3.7%.

VOCATIONAL SKILL CERTIFICATES

Skilled workers in different fields can give proof of their vocational skills and qualifications through tests and demonstrations, and thus obtain a vocational

skills certificate. The examination consists of a written test lasting one or two days, and a practical skills test between one and five days. The certificate can be obtained on a lower or an advanced level.

Participation
About 1000 adults take a vocational skills test each year. There are plans to extend the training leading to the certificate from 1994 onwards, which will most probably lead to a sharp rise in the number of candidates in the examination.

LIBERAL EDUCATION

The areas of emphasis within liberal adult education lie in general education and in non-formal, leisure and self-development studies. General interest courses provide skills and knowledge that help adults cope with everyday life. Such courses include Finnish/Swedish, foreign languages, information technology, social skills, and aesthetic and ethical self-enhancement.

Non-formal, leisure and self-development studies provide adults an opportunity to deepen their knowledge and skills in a particular field such as arts and crafts, self-expression and sports.

One of the aims of liberal adult education is to encourage people to take part in organizational activities in society. In social studies, accordingly, there is a focus on teaching the principles of democratic activities: for example, the skills of debating and defending one's views. Courses offered by trade unions emphasize aspects concerned with the quality of working life, such as courses in shop-steward training, occupational safety and terms of employment.

Liberal adult education is also involved in organizing orientation courses for vocational training and higher education.

The forms of study vary from evening courses to short intensive courses organized by different institutions. General interest courses lasting several months can also be taken at residential institutes.

Participation
Annually, about 25% of the adult population over the age of 16 take part in liberal education.

In Finland adult education is offered by about a thousand institutions; many of these institutions have been founded especially for adult education. Some of them provide education for both young people and adults.

STATUTORY INSTITUTIONS

Upper Secondary Evening Schools (50)
Upper secondary evening schools are usually maintained by municipalities; they offer teaching in the evenings to adults who work during the day-time. In evening schools it is possible to complete the comprehensive school, upper secondary school, and courses in individual school subjects. Upper secondary evening schools also accept private students.

Vocational Institutes (473)
Vocational institutes are owned either by the state (34%), municipalities (54%) or federations of municipalities (12%). Vocational institutions carry the main responsibility for organizing basic vocational education in Finland; they do, however, also offer further training and short-term supplementary training. Certain institutions are specialized in teaching vocational skills to the handicapped.

Vocational institutions provide vocational education for both young people and adults. Teaching arrangements vary from day and evening courses to part-time courses and multiform teaching of varying lengths of time. Vocational institutions also accept private students.

Vocational Adult Education Centres (42)
The majority of vocational adult education centres are owned by municipalities. A large part of the training offered by these centres is employment training. They also provide a wide variety of courses in different fields and on all levels from basic training to supplementary training. Most of the courses are held during the day.

Special Vocational Institutes (53)
Special vocational institutes are run by industry and business; thus many of them provide training corresponding to the needs of particular companies. Most of the training is supplementary vocational education, but some institutes also offer basic training.

Folk High Schools (93)
Folk high schools are mainly private residential schools for adults. They may also offer distance-teaching courses.

Folk high schools are maintained by diverse civic organizations, trusts and associations, such as cultural and Christian organizations, political parties, trade unions and other organizations. The selection of courses in each school varies according to the sponsoring organization. Traditionally, folk high schools have had great freedom in forming their own curricula.

Sports Institutes (11)
Sports institutes are run by sponsoring organizations, trusts and associations and offer physical education to young people and adults. In addition, they operate as training centres for athletes. Besides offering basic vocational education, sports institutes arrange both long-term and short-term supplementary vocational training.

Adult Education Centres (278)
Adult education centres have been established by municipalities to satisfy local educational needs. Primarily they offer courses in general education. Many adult education centres also offer basic or supplementary vocational training, courses in comprehensive and upper secondary school syllabuses, and open university courses. Teaching usually takes place in the evenings after working hours; intensive courses are either held during the week-ends or on successive evenings during the week.

Study Centres (10)
Study centres are maintained by civic organizations, such as trade unions, political parties, cultural organizations, advisory organizations and Christian associations. The main form of activity is the study circles that can be set up among interested members at the work place, in the local residential area, or as a sub-section of another organization.

The study centres and their regional offices organize courses and lectures on shop-steward training, first-aid skills and voluntary social work, as well as other social and non-formal adult education. Study centres are authorized to offer also vocational supplementary training.

University-Level Continuing Education Centres (20)
All institutions of higher education have a centre for further or continuing education. These centres are responsible for organizing professional further education and open university tuition. In addition, the labour authorities buy employment training from these centres. Most continuing education centres have regional offices that mainly cater for local educational needs.

The continuing education centres organize courses primarily for holders of university-level degrees, but the courses are also open to highly-qualified professionals with other diplomas. Most of the programmes and courses are fairly short; however, the number of term specialization courses is on the increase.

Temporary Polytechnics (22)
Temporary polytechnics are experimental vocational institutions formed from one or several former colleges and institutes of vocational education.

The polytechnics may be composed of institutes representing the same field or several different fields. The great majority of the polytechnics (three-quarters) are composed of more than one institute... [The polytechnics] include a total of 85 vocational institutes; 53% of them are owned by municipalities, 36% by the state, and 11% are privately owned...

MAIN LINES OF DEVELOPMENT IN ADULT EDUCATION

The development of the Finnish system of education crystallizes around the principle of lifelong education. Raising the level of education, renewing the contents of teaching, the individualization of teaching, and increasing the number of options are special areas of emphasis in this development process. In adult education the principle of lifelong education is manifest in the development of a system of diplomas and degrees for adults, and in the development of multiform teaching.

In vocational adult education, the system of practical examinations is currently under development; in these examinations adults can demonstrate their professional competence, regardless of how the skills have been acquired. With a view to improving the adult population's abilities to face the challenges of internationalization, an equivalent practical language examination will be adopted in language training for adults. Opportunities for adults to complete specialization diplomas and degrees will be improved by extending the programmes leading to these diplomas and degrees.

The supervision of self-motivated vocational training will transfer from input management to management by results. Norm regulation of the contents of teaching will be abandoned and replaced by a system of diploma and degree requirements that are drawn up in accordance with the aims of the vocational programmes. Educational institutions are thus free to decide on the contents of teaching and how the aims of the programmes are to be reached.

In order to facilitate adult participation in education, multiform teaching is encouraged and promoted. Multiform teaching includes the integration of contact and distance teaching and independent study, supported by guidance and counselling. Multiform teaching makes use of modern communication and computer technology.

...We need well-designed systems of assessment and achievement indicators; the development of such systems is also underway.

Editor's Note

1. Jorma Ahola's presentation at Hanasaari was based on information from the Finnish Ministry of Education. He elaborated on progress made in serveral areas of activity outlined in this extract: Ahola, J., Yrjölä, P., Katajisto, J., & Mattila, H. (Eds.). (1993). *Adult Education in Finland* (I. Hallberg-Rautalin, Trans.). Helsinki, FI: Ministry of Education.

Issues of Work Transitions and Training of Older Workers

by Lisa Avedon

DEFINING EDUCATION AND TRAINING

Education can be defined as "the institutionalized series of activities, roles, and organizations by means of which a group or society attempts to direct the learning capabilities of some or all of its members toward particular objectives" (Thomas, 1991, p. 17). Training is learning that is characterized by uniformity and specific objectives, designed to lead to competencies that can be measured in terms of skills mastery (Glaser, 1962). Skills, in turn, can be defined as "all those acquired abilities that enable people to function effectively in their social and economic systems. These include not only the ability to perform tasks, but also the responsibility and judgment to perform them well" (Premier's Council, 1990, p. 4).

Learning, however, provides the foundation for both education and training and is therefore broader than either one. Adult learning refers to the process of changing or enriching one's knowledge, values, skills, strategies and behaviours (Brundage and MacKeracher, 1980). Knowles (1990) sees learning as a continuum with training at one end and self-directed inquiry at the other.

The value inherent in the continuum model is that learners are perceived as mobile in their abilities, moving from training in relatively simple tasks requiring low levels of learning ability to more and more complex tasks that require more sophisticated abilities. Learning providers "have an obligation to build into ...strategies at each level some learning experiences that will help learners move up the continuum" (Knowles, 1990, pp. 116-117). The idea of a continuum has implications for the issues which this paper addresses, since it relates to the question: How enduring are the skills which are learned by older workers?

In evaluating the success of programs, endurance is a factor that is rarely measured. The question is, Will the completion of a learning process enable the worker to continue to be employed throughout her/his worklife, even if the workplace goes on changing? The need for lifelong learning as a component of economic well-being has never before been so well understood, but it is unclear whether it is factored in when an education or training program is developed. Although learning can be viewed in terms of objectives and outcomes or as a process which emphasizes the way in which it proceeds (Thomas, 1991), in work-related education and training programs it is usually the former perspective which prevails because specific skills are taught that must be applied to an employer's satisfaction.

The concern is twofold, here: (1) that the emphasis on teaching for outcomes will ignore the learning process, and (2) that there is a significant confusion between learning specific skills or information and a facility for learning in general. Older workers are particularly vulnerable to such concerns because, since worker education and training is an issue of human capital, it is tempting to train only those who have demonstrated that they are "easy" to teach and to tailor their training to short-term objectives. This issue is germane to the "de-skilling" and "en-skilling" effects of technology, since the greatest problem faced by older job-seekers is "lack of adequate training to survive in an increasingly technological society" (Fraze, 1988).

While it is generally understood that schools are responsible for ensuring that young people have acquired basic skills, and that employers must facilitate the acquisition of specific workplace skills, the issue of responsibility becomes less clear as workers' ages increase. Some of the questions which need to be raised are these: Should the public sector maintain responsibility for workers' basic skills throughout their work lives? Who is responsible for ensuring that workers have the portable skills they require in order to remain employable? What are the roles of government, employers and labour unions in providing this training?

EDUCATION AND TRAINING

Surveys show that the rate of participation in work-related courses and programs has been increasing for younger workers, but remained low for their older colleagues (Plett, 1990). In Canada, the reasons for this are rooted in history as well as in present-day attitudes and policies. Canadians over the age of 55 had significantly fewer opportunities for education, because the expansion of the post-secondary system in the late 1960s took place after they had left school; some did not even have access to high school (Trueman, 1989). This generation began working at a time when jobs which did not require much formal education or skill training were still plentiful. Immigrants to Canada were recruited to fill job vacancies in industrial sectors where little formal education or skill training were required. These workers are now ill-prepared for a workplace altered by the rapid rate of technological and economic changes (Bornstein, 1986).

Policies and Programs

The education and training of older workers has not been a priority for government policy-makers (David, 1993; Drury, 1993; Hutchens, 1993; Plett, 1990; Trueman, 1989; Rothstein, 1987; and Moody, 1986). An International Labour Organization (ILO) survey of twelve countries (Belgium, Canada, Denmark, France, the Federal Republic of Germany, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, the United States of America, and the USSR) found no comprehensive policy which addressed the training of older workers.

In Canada, the results of a survey of 651 Calgary firms showed that the perception of older workers on the part of over 50% of respondents was that they do not possess the qualifications required for a job and are therefore poor candidates for the recovery of training investment. On the other hand,

younger workers are seen as "quickly trained and...remain with the company longer" (Gibson, Zerbe and Franken, 1992, p. 170).

There has been an increasing trend since 1983 for Canadian workers aged 55 and over to drop out of the workforce. The major obstacles they face are economic transformations and technological changes; the lack of government policies or programs affecting training, retraining and placement; recent court rulings maintaining the retirement age at 65; and the lack of will on the part of the government and employers to consider the aging workforce in particular or the aging of the population in general in the creation of their economic or human resource management policies (David, 1993). Federal government training programs have been criticized for more than a decade for not targeting older workers and for failing to break down employer resistance to on-the-job training for these workers despite the recommendations of federal government task forces (Trueman, 1989).

Japan, the United States, Canada and Germany have been cited as having some of the necessary elements in place for this training, with Japan being the furthest ahead. In the culture of Japanese employers, a practice of lifelong employment means that training of older workers is commonplace. The government supports these initiatives through several legislative acts which include the targeting of older workers for training and higher rates of reimbursement for employers' training costs amongst older workers (Osako, 1989). In the United States, the American Association of Retired Persons (AARP), a lobby group for older workers, conducts research and develops innovative training and placement programs. The United States is the most experienced of those countries surveyed in provision of counselling services for older workers. And in Canada, two provinces, Manitoba and Ontario, have training programs targeted at older workers (Plett, 1990).

Relationship to Career Mobility

Many older workers who lose their jobs are employed in declining industries, so that in looking for new jobs they must look outside of their occupations and industrial sectors. Those who are fortunate enough to find job openings in their previous industry and occupation are more likely to become re-employed because their experience and skills are valued. Only when they move outside of familiar territory is their age more likely to affect both opportunities and anxieties over re-employment (Hutchens, 1993). It is very difficult for older workers, especially those who have had stable employment for decades, to navigate through the legions of information on jobs and training to try and choose what is most appropriate to pursue (CLFDB, 1993).

The decisions of older workers to change jobs or careers, or to retire altogether, are directly influenced by their attitudes toward mobility and success or failure inherent in previous career development activities (Sterns and Patchett, 1984). Additionally, the history of education or training for these workers is relevant to their career development and mobility (Sterns, 1987); those with post-secondary education, for instance, as well as those in white-collar jobs, are more likely to receive training (Statistics Canada, 1992).

Because vocational psychology was centered for so many years on the process of initial career choices (Vondracek and Fouad, 1994), there is an urgent need for more research in the area of lifelong career development to

address the concerns over career implications for a rapidly aging population (Vondracek et al, 1986; London and Greller, 1991).

The perception of employers is equally important to the development and mobility of workers' careers. One study concluded that an organization's norms on aging are the result of the beliefs shared by personnel about what happens to people as they age in the work environment, and these norms in turn have a direct impact on management's behaviour toward older employees (Lawrence, 1988). If there is a lack of interest in the development and mobility opportunities of older employees, employers must examine the values and norms of their corporate culture (Doering, Rhodes, and Schuster, 1983).

Attitudes of Older Workers toward Education and Training

What of the older workers themselves? Some studies have shown that most are interested in retraining (AARP, 1986; Hale, 1990; and OML, 1993); others discuss the reluctance of older workers to consider retraining because of their age (Leana and Feldman, 1992), and their fear of failure (Nusberg, 1990). Apprehension and a fear of failure are understandable if one's experiences in education and training are in the distant past and in subject areas that seem to be out-of-date relative to contemporary technology (Rothstein, 1987). Reluctance may also be due to workers' lack of confidence in finding work following the training (Nusberg, 1990). Didben and Hibbett (1993) believe that the effects of technological changes on older workers are sometimes overstated, and that they are capable of coping with the changes demanded of them.

CONCLUSIONS

Neither governments nor employers have developed consistent policies which target training for older workers, despite policy papers requesting them to do so. Only one or two countries surveyed have the necessary policy and legislation in place, supported by government funding and offices devoted to older workers offering such permanent facilities as research, directories, reports and publications as well as job placement and job-related training (Plett, 1990).

Also scarce are such initiatives as cooperation among concerned organizations; counselling; special training techniques; the use of older workers as peer trainers, counsellors, and teachers; or any special emphasis on older women (Plett, 1990).

More work needs to be done with employers and unions to combat myths on aging and help them to view older workers in a more realistic light. Also, there is no mention in the literature of cultural issues and how they affect both older workers themselves and their perception by employers, trainers, teachers, and counsellors.

Any discussion of the training and education of older workers must examine the training of frontline trainers and educators as well as human resource managers, under whose auspices programs are designed and delivered and recruitment strategies adopted.

Surveys have confirmed that older workers are interested enough to avail themselves of education and training when these are accessible, and furthermore that they are successful in learning when adult learning principles are used to deliver the training. Hale (1990) recommends five types of learning programs for older workers:

1. Periodic skills updating to prevent obsolescence and make opportunities for promotion more likely.
2. Education about prospective new jobs within the organization.
3. Education in new technologies and processes.
4. Pre-retirement education, including preparation for second careers.
5. Occupational education for older workers whose jobs are likely to be replaced by technology.

Hale (1990) recommends that human resource development departments offer programs for employers, managers, senior managers and human resource development staff on issues related to the older worker and strategies for how to deal with them, as well as information on how older workers contribute to a positive work environment. Taylor (1989) suggests doing an inventory throughout the organization to ascertain if any stereotypical beliefs about older workers are held. Sterns (1987) recommends age-neutral personnel policies to ensure that older workers have access to career opportunities consistent with their aspirations, abilities and potential. In their evaluation of a training program for managers on age issues, Peterson and Remnet (1986) found that the information gained was used to prevent and resolve age-related problems in the workplace.

None of the countries studied by the ILO have paid sufficient attention to the provision of information and recruitment (Plett, 1991a). Information networks are just beginning in Canada, but recruitment procedures do not display innovation in identifying and attracting older adults to participate in work-preparation activities (Plett, 1991a).

Counselling is recognized as crucial to the occupational activity and training of older people (Helwig, 1984; Plett, 1991b); however, it is also recognized that more research is needed to develop a better understanding of adult development and learning at older ages, along with appropriate frameworks for intervention strategies (Cahill and Salomone, 1987). Taking into account the complexities of learning systems and the lack of a coherent career information strategy (which would include counselling), recommendations have been made in Ontario to improve services to adult learners (Premier's Council, 1994).

The literature which discusses older adults makes it clear that we have the knowledge and resources needed to establish learning environments that are suitable for, and accessible to, older workers. There is no lack of material on principles, guidelines and suggestions on aiding older workers to learn effectively. Those cited in the bibliography on this topic are: Rosen and Jerdee (1989), Plett (1991b), Peterson (1983), Caro and Morris (1991), Miller (1989), Taylor (1989), Lester (1985), Brookfield (1986), Sterns and Doverspike (1987), Rothstein (1989), Mintz (1986), and Czaja et al (1990). Hale (1990) provides a list of Instructional Approaches for Older Workers which serves as a summary of the recommendations in the above citations (Appendix A).

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Appendix A:

Types of Learning Programs Necessary for Older Workers:

1. Periodic skills updating to prevent obsolescence and make opportunities for promotion more likely;
2. Education for prospective new jobs within the organization;
3. Education in new technologies and processes;
4. Pre-retirement education, including preparation for second careers;
5. Occupational education for older workers whose jobs are likely to be replaced by technology.

(Adapted from Hale, 1990)

Studying Employability Skills in an Open Learning Environment

by Eija Bergman

BACKGROUND

Over the past few years in Finland, we have experienced a difficult recession. Unemployment figures have been at an all-time high of almost 20 per cent, and young people graduating from schools and universities have found it extremely difficult to find their first jobs.

Training for jobs has become more complex due to the fact that we simply do not know what the jobs of the future will be. We do, however, have some ideas about the general qualifications that will be needed, and we know with certainty that professionals will have to be flexible enough to change careers several times during their lifetime, adding qualifications for new careers on an ongoing basis.

One of the most difficult challenges faced by our educational institutions is how to guarantee employment to graduating students. Unfortunately, these institutions are not always quick enough when reacting to the widespread changes in the labour market. In Finland, several large projects have been initiated to begin the necessary process of transformation; however, enrolment figures, curricula and teaching methods change slowly.

TRAINING OF EMPLOYABILITY SKILLS

The process of change is perhaps most difficult in the traditional institutions of higher education. In the past in Finland, it was relatively easy for university graduates to find employment, very often in the public sector. Because university education tends to be rather theoretical, training in practical tasks traditionally occurred in the workplace. During the last two or three years, however, a radical change has occurred, especially in the public sector, where rapid and extensive budget cuts affect hiring. University graduates have found themselves increasingly unemployed and with very limited employability skills.

At the University of Helsinki, this was the context in which we began to develop modules of training to address employability skills and career development, which could be added on a voluntary basis to a university program. A preliminary analysis of university teaching revealed that university students had limited opportunities to study in such areas as career development, teamwork, negotiation and social skills, creativity and self-expression, cross-cultural communication, and entrepreneurship—the range of skills needed to function effectively in the modern workplace.

We also discovered that although university students learn such academic skills as how to undertake project work, problem-solving, data-processing, and oral presentation and writing, they are most often taught how to apply such skills in the service of research. What was needed was training in how to transfer this learning into the workplace.

The question was how to organize these new studies so that every student would have the opportunity to access what s/he needed. In the spring of 1994, we decided to create an open learning environment for studying employability skills, an idea based on our previous experience of organizing employment-oriented training and distance education.

TOWARDS OPEN LEARNING ENVIRONMENTS

The ideal open learning environment would provide a student with the means to learn whatever was desired—at any time and in a location of choice. However, it is unlikely that such an ideal environment has been created anywhere in the world to date. The term "open learning" is usually used as an umbrella term to describe either a program that seeks to provide individual learners with greater control over their own learning or provide an organization with a flexible capacity to provide training.

Over the past ten years in Finland, the teaching model for continuing education has changed from a teacher-centered one to a multiform teaching model that combines in a flexible way many forms of distance and face-to-face learning modules. Our aim now is to transfer this teaching model to an open learning environment that is increasingly learner-centered.

The open learning environment provides the following opportunities for students:

- To choose learning that fits with his/her individual needs and talents as well as with career goals;
- To make choices which fit individual preferences for content and method;
- To choose study modules that are suitable for individual life situations and learning styles;
- To have a choice between a solitary learning environment and one that is collaborative with other students, friends and networks.

An open learning environment depends on the following distinguishing features:

- Active, self-directed learners.
- Supportive systems: tutors, study groups, and counselling.
- Study materials designed to guide and support the learning process.
- A variety of options in study modules and approaches to learning.
- Flexible planning, administration and systems of accreditation.

When we began this work in 1994 it was with the support of the Ministry of Education. The first part of the project involved the joint effort of three universities: the University of Helsinki, the Theatre Academy, and the Helsinki School of Economics. In this initial phase of the project we offered twelve courses centered on working skills; while they are referred to as

"courses", they are in fact modules designed as multiform entities from which students can choose the parts they need.

Plans are to enlarge the project during the next academic year to include many more options, such as career guidance, networking, international training modules, and apprenticeships in Finland and abroad. It is of course extremely important in such a project to cooperate with the employment offices of universities, as well as with local community employment facilities.

EMERGING ISSUES

Several issues have emerged from the first year of running this pilot, some of which are summarized below:

Issue #1: What is learning in an open learning environment?
We discovered that creating an open learning environment necessarily involves teamwork and networking. From the beginning of our pilot project, we had a core team in place to work with the central project philosophy, as well as several expert groups to help with more specialized issues as they arose. An essential part of the development work has always been regular meetings and workshops where we could flexibly brainstorm ideas and undertake planning that would have concrete results.

Again and again in our discussions and developmental work, we came back to the basic question of what our concept of learning looked like. We studied the changes in work life as well as the concepts of self-directed learning, critical reflection, and student support. Our challenge has been to achieve a deeper theoretical and practical understanding of these concepts, and to develop scenarios that could guide us toward clear critical thinking. We wanted to benefit from the discussions and input that international dialogue can provide.

Issue #2: How will students identify their developmental needs, optimal learning goals and relevant challenges?
We have developed and tested various programs in self-assessment and career planning, as well as individual and group session formats for consultation and feedback. However, we are aware that there is room for refinement of these methods, and so we are always searching for models that may have been tested successfully within the international community.

Issue #3: How can we create an adequate support system to help students carry out their individual learning and development plans.
One of our basic findings when developing distance education and self-directed learning has been that a comprehensive support system is necessary in order for students to follow their development and training plans through from beginning to end. Initiatives we have taken in this regard include individual and group tutoring to monitor and support students' progress, and the active encouragement of networking for those students who want to work with each other. Currently, we are planning workshops in which students can develop their own projects and ideas more fully, and we are also starting a tutor training program. There is always more to learn in this field.

Issue #4: How to create flexible learning modules suitable for the open learning environment.

One of the challenges we have discovered in using experts from both universities and the workplace in our planning stages is that the open learning environment is frequently a brand new concept for resource people, who have a tendency to resort to the old, familiar teaching models. This has led to an understanding that teacher training must be an essential part of the project.

We have also become aware of a tendency to approach the planning process for an open learning environment with curricula already in mind. We are now trying to make these hidden agendas transparent, in order to describe the various possible paths that students might take to fulfill their learning program objectives. Open learning environments do not free us from planning; on the contrary, the modules and supports which constitute this environment must be planned even more carefully than those offered through distance learning programs.

In view of the goal of a comprehensive open learning environment, it is also necessary to continue the development of distance learning methods and the study materials and computer programs which enable their success.

Issue #5: How to build a continuous evaluation and feedback system into the learning environment.

Because there are no ready-made "learning tubes" through which all groups of students must pass, we must develop a comprehensive evaluation and feedback system. Fortunately, we have been able to hire a researcher to help us with this specific task, and over the next three years we will plan and develop evaluation systems that will serve the following purposes:

- To guide and support students in following up and assessing their own development;
- To provide support and guidance for planners and teachers to monitor and improve the quality of the modules and other critical elements of the environment;
- To prove to the organizations and funding agencies involved that an open learning environment is efficient and effective and can accomodate the highly diverse needs of individuals and workplaces.

CONCLUSION

Preliminary evaluations indicate that the open learning environment for unemployed university graduates is a very promising experience. Students have welcomed the new system with gratitude, and participated actively in planning their own career paths. The first research results show that even after short workshops or courses, about one-third of the graduates were able to find employment or other work projects, and for graduates of longer programs (averaging six months), less than 20 per cent were still unemployed.

In addition, trainers and career advisers have been enthusiastic about their new tasks. The entire team has been applying new learning methods

and discovering new ways of working with students. The research is activity-oriented, and as such provides continuous feedback and developmental ideas to the team of trainers and counsellors.

At the University of Helsinki, with the help of government funding, we began this new program because of the difficult unemployment situation. During the process we learned that universities in several European countries, as well as in Canada and the United States, have offered career services and employability skills training for several years. Because we had no experience with this kind of program, and developed ours without reference to foreign examples, it is useful and interesting to compare results at an international level. I look forward to a continuing and rich dialogue with educators in Canada and throughout Europe.

Technology and Learning: Finding the Balance

by Elizabeth J. Burge

> Most forward-looking people have their heads turned sideways (Innis, 1980).
>
> The challenge of telecommunications is about the ignoring of absence and the privileging of presence (Haughey, 1995).
>
> ...the problem with technology is our preoccupation with it (Paul, 1995).

INTRODUCTION

This paper examines some of the challenges involved in using technology for adult learning. Here, the term "technology" refers to recent advances in communications, especially audio, audio-graphics, computer- and video-conferencing. Rather than focusing on the future, I will attempt to consider how these newer technologies fit into the framework of my own professional practice against a background of experience in some of the earlier technologies. Harold Innis was a Canadian communications philosopher, and Margaret Haughey and Ross Paul are two of my critically thoughtful colleagues in distance education. All three confront the challenges that I believe accompany technological change, with its enormous impact on adult learners.

The first major challenge consists of the sheer complexity of these challenges. In many adult learning contexts, and especially in workplace settings, educators now face a category of problem that is ill-defined, or "wicked" (Rowe, 1987). Such problems display four features: (1) they resist clear definition; (2) any proposed solution simply leads to further questions and a need for new problem analysis; (3) different descriptions of the problem will generate as many different answers; and (4) alternative solutions that are equally plausible can always be provided (Rowe, 1987, p 41).

One example of a "wicked" problem relates to the learning applications of communications technologies: educators face various pressures to adopt these new technologies, monitoring their cost-effectiveness and positive impact on the learner. But first they must decide how to identify the problems associated with using such technology, and then choose from a range of feasible solutions the one that will be most appropriate. It is no wonder that, as educators, we sometimes feel stressed and confused and find the books of prescriptive theory and strategy not particularly helpful. Such confusions constitute the second major challenge we face.

This paper explores the dimensions of this second challenge and offers a few useful ideas about technology which come out of my own experience in the field. Framing this exploration are two contextual factors: (1) models of teaching; and (2) the latest wave of expansion in international distance education.

CONTEXTUAL FACTORS

Models of Teaching

Transmission models of teaching depend on the activities of a teacher as the centre of classroom activity, with learning based mainly on reading, question-answer formats, listening to lectures, and following instructor-controlled procedures; generating original ideas and assessing their usefulness are not significant activities in this model. The net effect is that many learners schooled in this method enter education programs as passive, teacher-dependent, and lacking in learning skills development. They may have little idea of how they know what they know; and they can experience understandable anxiety or even hostility when they first encounter non-lecture modes of teaching. One of my students, a retired army instructor, explained his move away from the transmission model to a more proactive and self-responsible model in terms of changing from "the British long bow to multiple launch rockets" (MacLachlan, 1995).

It is worth noting that employers in Canada are now demanding a matrix of skills that incorporate personal management and interpersonal competencies on top of those that are strictly job-related. The complex act of learning demands a similar set of skills. One taxonomy of learning-to-learn skills for adults (Collett, 1990) suggests that an effective adult learner must be able to understand and manage not only the learner role and the learning environment (as imposed by the institution), but should also possess a sound understanding of self and of life-roles. In addition, this learner must be able to use a wide variety of resource formats and learning activities, employ a variety of practical thinking styles, recall and apply knowledge to new contexts, and cope with the "wicked" problems of the real world.

A recent review of two paradigms in undergraduate education (Barr & Tagg, 1995) explains the differences between educators who "provide instruction" and those who "produce learning". The production-of-learning paradigm makes use of holistic approaches that access a wide variety of resources and appeal to learners whose modes of thought range across a broad spectrum. The function of the teacher is not diminished so much as changed, from sage to guide. This paradigm taps into two basic motivators in learners, the need for personal autonomy and mastery (feeling in control of our lives) and the need for social affiliation (feeling that we belong with a supportive group or person) (MacKeracher, 1996). Because the transmission model does not explicitly appeal to these motivators, its practitioners often find themselves wondering how to motivate their students. The fact is that an educator really cannot produce motivation in anyone else, but can only establish the conditions in which a learner is enabled or disabled in terms of tapping into their own motivational resources.

The constructivist model of teaching and learning, which posits becoming your own learning architect, has become a major focal point of recent literature produced in English-speaking countries on educational technology. An increasing number of writers (see Wilson, 1996, for a survey) outline how learners can be encouraged to build their own knowledge structures in environments where they are—

> ...actively engaged in perceiving different perspectives and organizing and representing their own interpretations.... This is not "active" in the sense that learners actively listen and then mirror the one correct view of reality, but rather active in the sense that learners must participate and interact with the surrounding environment (Jonassen, Myers & McKillop, 1996, pp. 95-96).

Adult educators routinely use such active approaches to learning (MacKeracher, 1996). One of the most significant challenges for the educator today is to design environments that realistically reflect the complexity and ambiguity of the contemporary world—in short, its "wicked" problems.

The Status of Distance Education Development

The second contextual factor is the present stage of development in distance education around the world (see Lockwood, 1995; and Roberts & Keough, 1995). The ideas of Finnish educators who are documenting their experience in this field emerge from a long tradition of adult education and a sound knowledge of adult learner needs (Kyhäräinen, 1994; Öhrmark, 1995; Ukkola, 1995; Oinonen, 1995). The current phase of development in distance education around the world is shaped by such global factors as the pressure for on-the-job-training, institutional requirements to maintain student numbers and ensure the efficient use of resources, and client/learner requirements for relevant quality materials and courses that are free of time-and place-bound requirements (Roberts, in press).

Distance educators are now operating in a busy, competitive marketplace where learners are thinking as consumers, looking for the best value available for their course fees. Clients are very diverse in terms of learning styles, resources, needs and abilities. A profile of these clients is emerging which indicates that most live in urban rather than rural areas, and over half are women (Kirkup, 1995; von Prümmer, 1994). Distance mode learners are not confined to universities; in Canada, a country of 29 million people, approximately 55% of the universities, 68% of vocational training colleges, and 36% of large and medium-sized businesses reported using distance education strategies (Roberts, in press).

It is necessary for distance educators to respond to the needs of this highly divergent client group while also accomodating government priorities which dictate using new technologies to generate greater social progress and financial security. For example, Finland released an official report in 1995 that discusses goals and strategies for developing an "information society" (Finland. Ministry of Education, 1995); and in the same year Canada released a report promoting the wider commercial and educational use of the "information highway" (Information Highway Advisory Council, 1995).

CONCEPTUAL CONFUSIONS

It should be no surprise that confusion abounds in times of rapid social change and the rapid expansion of technology into all sectors of society. From a comprehensive list of such confusions I have chosen a few to suggest the scope of the problem. In the category of technological confusion, for example, "the mediation of distance is confused with the mediation of people"; and "connecting wires is confused with connecting people" (Burge, in press).

The confusions about teaching include teacher talk being mistaken for student learning, and assessment of the quantity of information as if it reflected quality. I have noticed that students will learn in spite of what I may do, and that they will not necessarily learn exactly what it is I tell them. Furthermore, the Internet and e-mail give me great volumes of information that I have to sort in order to process; in other words I get a torrent of water when all I need is a glassful.

Several kinds of thinking errors encourage such confusions, for example: thinking about newness instead of usefulness; the absence of adequate standards for measuring teaching practice; the disappearance of common sense; and a relaxation of focus on the dynamics (as opposed to the outcomes) of learning.

UNDERSTANDING TECHNOLOGICAL IMPACTS

Several authors have written about the confusions of principle which surround new technology (McLuhan & McLuhan, 1988; Postman, 1992); others have approached this subject through general reflections on the "real world of technology" (Franklin, 1990).

Thirty years ago, Marshall McLuhan proposed four laws of media that are still relevant today, alerting us to the complex nature of technological impacts:

- Every medium enhances some human function.
- In achieving this enhancement, the medium renders obsolete some former medium or technology used for the same purpose.
- The new medium or technology, in realizing its function, also retrieves an older form from the past.
- When pushed far enough, the new medium or technology flips or reverses into a complementary form (Logan, 1995, pp. 27-28).

Another way of saying this is that in the long run, the impacts of technology on users may evolve very differently from the originally intended effects; and the newer technology may uncover an unforeseen use for earlier technologies.

Postman argued in 1992 that we have to negotiate with technology, because it "giveth and it also taketh away" (Postman, 1992, p. 5). He later listed ten principles relevant to the use of technology in education which reinforce the idea that the impacts of technology are neither equal, equitable, expected, bias-free, nor necessarily cumulative (Postman, 1995). For example, he argues that technological change is really ecological in

scope and not merely additive to existing practice; and he points out that each new technology competes against older technologies for dominance. New elites emerge that are based on technological skill as well as on the rejection of older technologies.

Franklin (1990) distinguished between holistic and prescriptive technologies, arguing the need for awareness of how the latter impose a division of labour, effectively precluding any real control for the user: "In political terms," writes Franklin, "[these technologies] are designs for compliance" (1990, p. 23.). An example of a prescriptive technology would be computer-based training software that controls when and how the learner can respond to programmed instructions. Holistic technologies, on the other hand, belong to the artist or craftsperson who remains in full conceptual control of the design and production of a unique artifact. An educational example of holistic technology would be a research project in which the learners themselves could exercise some self-direction and initiative.

While Postman promotes a stance of negotiation for the appropriate introduction of technology, Franklin suggests that we use a more fundamental and subtle approach, what she calls her earthworm theory:

> Social change will come through seeds growing in well prepared soil—and it is we, like the earthworms, who prepare the soil. We also seed thoughts and knowledge and concern... We do know that without the seeds and the prepared soil, nothing will grow at all (Franklin, 1990, pp. 120-121).

The gardening metaphor leads naturally into the next section, which deals with the cultivation of useful ideas that serve as the soil in which I continue to seed my own educational practice.

SOME USEFUL IDEAS FROM EDUCATORS AND DESIGNERS

Contributions from Educators

When I wish to avoid a preoccupation with technology itself I try to reflect critically on my own experience while turning my head sideways (Innis, 1980) in order to recognize and apply collegial contributions (Haughey, 1995; Paul, 1995). What do we already know, in addition to the wise words of Franklin, Postman and McLuhan? I offer here six ideas which are summarized out of my years of adult and distance education teaching, research and collaboration with many fine colleagues. A more detailed examination can be found in a recent review of international distance education and uses of technology (Burge, 1995).

1. Each type of technology produces particular bias effects on what is presented and how the learner attends to this presentation. Print media encourage sequential, analytical, rational and linear ways of thinking, while visual media seem to encourage a more subjective and non-rational approach. Speech, on the other hand, taps into memory, imagery and rhythm (Norton, 1992). Technology in and of itself cannot promote learning, but is highly dependent on the abilities of those who use it (Carter, 1996; Hooper & Hanafin, 1991).

2. Because of preferences in personal cognitive style that relate to how we receive, process, store and use information, no single technology will ever provide a magic answer to all problems of learning and teaching. Variety seems to be the key, just as we need a variety of tools in order to build a house.

   The metaphor of a tool is often used to link the functions of technology to the learning process, but care must be exercised when applying this metaphor, for there are times when a tool will be inappropriate for the task at hand. The educator who is obsessed by the tool may see its application everywhere in the same way that, for a person with a screwdriver, everything looks like a screw. The information highway is another pervasive metaphor for educational technology, but its obvious connotations of speed, volume and isolation are not appropriate for many adult learning processes. Von Weiler's metaphor of a weaving loom for computer-based interaction (cited in Burge, 1995, p. 152) may better evoke the relationships between threads of learning and teaching, and also emphasizes the learner's control.

3. My educator skills should not be assessed primarily in terms of my ability to use hardware or software, but rather they should relate to how well I establish and manage the conditions that make for effective learning. Technology is only one aspect; others include knowledge resources and learning strategies. Effective use of technology demands skills particular to each technology type, for instance vocal skills for audio contexts, verbal expression skills for e-mail, and good self-presentation for video conferencing. Of course proficiency in interpersonal communication is fundamental to all uses of technology. In three-month graduate courses, I find that it takes some time for many adult participants to establish a communicative and responsive presence.

4. Easy-to-use technology should not be confused with easy-to-think learning activities. The operation of technology should be transparent (easy to learn and to use), because the brain must be left free for the hard work of learning. If it takes learners one month to master the software required for interacting over a three-month course, they are likely to experience frustration and a lowered sense of efficiency.

5. Any technology that is used at home, such as Internet hook-ups to personal computers, raises gender-based questions of access. In line with societal conditioning, will men assume privilege of use, for instance? Will women get enough uninterrupted time and privacy in which to use the technology thoughtfully? (Kirkup, 1995)

6. The use of asynchronous group-based learning technologies in which interactions do not occur in real time (like e-mail and computer conferencing) must accommodate the factor of cognitive synchronicity in class discussions. A learner cannot easily opt out of a discussion for a couple of days to think or relax, and expect to come back on line and pick up at the same place, because the focus of the discussion will have

moved on (Burge, 1994). Keeping learners together as a functioning group requires skill within face-to-face contexts, but calls for a different kind of acumen from learners and teachers alike when few cues are available from which to assess feelings and prompt turn-taking in discussions (Harasim, Hiltz, Teles & Turoff, 1995).

Contributions from Designers

The second group of useful ideas comes from the world of design. What is "good design" anyway? I can consider the criteria for a "classic", and recall Stenros' list: "user-friendly, durable, versatile" (1995, p. 3); or Enbom's criteria of aesthetics, simplicity, function and timelessness (1995). Or I can use Gustafson's standards of good sense, common sense and a sense of proportion (Burge, in press).

I can walk into Norman's world of "everyday things" (1989) and consider his four guiding principles for ensuring that "the user can figure out what to do, and...the user can tell what is going on" (Norman, 1989, p. 188). Applying these principles to a well-designed technology like computer conferencing would assess how quickly and easily a learner could operate the technology (Norman's visibility principle); how readily the learner could access necessary clues and supports while actually operating the technology (the affordance principle); whether the learner could act in a natural, intuitive way (the natural mapping principle); and how quickly the learner could receive corrective or restraining actions in the event of a mistake (the feedback principle).

SUMMARY AND CONCLUSION

Adult educators face more problems of the "wicked" variety than ever before. Looking for simple prescriptions, relying on other people's research results, or thinking in old paradigms, will not help us to address the complex problems of learning in and for the workplace. The quotation from Margaret Haughey which opened this article suggests that solutions do not consist necessarily in simple deficit remedies. To "ignore absence" is not just to ask participants to talk; it has more to do with creating individual presence and community action. Likewise, to "privilege presence" is not to assume that people are present mentally just because they are connected by wires, but is concerned with understanding how and why people learn with one another.

Distance educators who hope that they can simply add a technology or two to support existing practice are missing the opportunity to be earthworms for the soil and seeds of change. While earthworms are not glamourous, their actions are elegant because every effort is a necessary one, perfectly matched to the environment. Earthworms are essential because they support a dynamic ecology; so are "elegant" teachers who create dynamic learning environments. Such a teacher also has a good chance of resisting the temptations of becoming preoccupied with technology (Paul, 1995).

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Labour Leadership: The Training Trust Fund Model

by John Cole

CHARACTERISTICS OF THE CURRENT SITUATION

Context and Background, IBEW Local 2309

New Brunswick is one of Canada's Maritime Provinces, located on the nation's east coast and bordering the Atlantic Ocean. The International Brotherhood of Electrical Workers (IBEW) Local 2309 is the bargaining agent for 950 men and women employed by the New Brunswick Power Corporation (NB Power), a medium-sized utility with approximately 2,700 employees across the province.

Members of IBEW Local 2309 work either under the Clerical Collective Agreement or the Technical and Nuclear Collective Agreement. The clerical division (representing 350 members) is predominantly female, while the other divisions are largely male. The Union shares a close fraternal relationship with IBEW Local 1733, which represents 925 male tradespersons at NB Power.

In Canada, about 30% of the civilian workforce is unionized, and unions are often at the forefront of worker education programs.

A Union Response to Workplace Change

IBEW Local 2309 has a track record of success in championing innovative approaches to workplace change. A long-standing advocate of lifelong learning, the Union views education and training as a way of empowering workers to meet personal and workplace challenges with confidence. In the context of rapid technological change and the emergence of a high-skill economy, enhancing the skills of workers constitutes a critical Union focus.

In the late 1980s, IBEW Local 2309 began to move its training vision toward reality. In 1986 and 1987 for instance, it successfully negotiated an education clause in its two collective agreements, which initially directed .01 cent/hour into an Education Fund. The Union sponsored a series of communication courses and the overwhelmingly positive response led to a demand for more programs. Presently, .05 cents/hour goes into the Education fund.

Training Trust Fund Model

Stable, long-term funding is a key determinant of an effective training plan, which must rely on delivery of creative programs on a consistent and timely basis. Encouraged by the members' response to its first program offering,

the Union focused on developing a strategy that would allow financing of a more ambitious training program.

For over one hundred years, the construction industry has been characterized by training trust funds managed by the unions and contractors. The premise of such fiscal management has been that since training is a mutual interest of both parties, it is best addressed on a collaborative basis. IBEW Local 2309 felt that an adaptation of the training trust fund model could be developed and applied to the utility industry. Accordingly, the union researched a federal government program designed to establish training trust funds that would be financially self-perpetuating after three years. A detailed proposal was developed which was then used to build a strong coalition and secure financial commitment from NB Power. In 1989, IBEW Local 2309 signed a cost-sharing agreement in which the federal government awarded a grant of 50% of the total combined cash contributions of the Union and NB Power during the first year, and 33% in the second and third year respectively.

By front-loading the cash contributions to the Training Trust Fund, the annual cost of the programs was offset by the ongoing annual cash contributions of the union and the employer, combined with the interest generated by the Fund. The goal of stable, long-term funding had been achieved.

Collaborative Partnerships

By assuming a leadership role, the Union was able to build a matrix of collaborative partnerships, drawing on its national affiliation with the Canadian Federation of Labour for technical assistance. It also gained the support of provincial politicians, a partnership that is especially critical in a public sector context. All of this networking was in place before the Union initially approached NB Power about potential contributions.

The Union membership was a crucial partner, contributing by virtue of deferred employee wages through a negotiated education clause to the Educa-tion Fund.

Expanding on Success

The Union's sister local, IBEW Local 1733, had been following work in progress with keen interest. In 1992 this local succeeded in their efforts to establish their own training trust fund, which opened the potential for some economies of scale and strengthened the training efforts of both locals.

EXEMPLARY FEATURES OF PILOTS

Because the Union regards the first five years of any new training plan as a pilot, the Training Trust Fund was administered from this point-of-view. Under the guidance of the trustees, the Education Program was subject to intense scrutiny and continuously fine-tuned as new information and experience informed the decision-making process. As a pilot, the program is notable for several innovative features.

Educational Services

The primary educational service provided through the Training Trust Fund has been the sponsorship of two-day courses conducted initially for members of IBEW Local 2309, and then later in tandem with members of IBEW Local 1733. A secondary activity has been to facilitate access to selected external educational activities such as the Women in Trades Conference, and labour-sponsored education programs and resources.

With respect to its primary educational service, IBEW Local 2309 placed a high priority on communications training due to the immediate and impressive workplace results that similar courses had produced. The highly successful two-day "Effective Communications" course remains a key program offering.

The course entitled "Advanced Leadership Seminar", based on the Personal Strengths Inventory, was the second program to come on stream, followed by "Effective Interpersonal Communications", which includes gender-based communication styles. In 1991, a workshop called "Critical Thinking" was introduced. These four courses comprised the core program offerings from 1989-1993; in 1994, a course entitled "How to Really Get Through to Just About Anybody" was added.

Instructors and Curriculum

Only highly qualified instructors who have a tried-and-tested curriculum are invited to teach. Because instructors must be able to communicate with participants on their own level, an academic approach to worker education and training is not effective.

Administration

The weekend retreat format in a get-away lodge setting supports the learning process. Courses typically begin on Saturday evening and conclude at noon on Monday, or start on Thursday evening and conclude on Saturday at noon. Learning continues outside the classroom as participants interact socially, forging healthy relationships that are then transferred into the workplace. Temporarily free of home and work responsibilities, participants are able to direct their full attention to learning.

Participants contribute their time off, and time away from work (one day) is paid by the Trust Fund directly to NB Power. All other costs—instructors' fees, meals and lodging, and travel—are paid for by the Trust.

Up until 1995, the registration policy required that training in the four core programs was in sequence, with the first course being a prerequisite for the second, and so on. This policy of progression was seen as beneficial because participants became ambassadors for the programs when they returned to the workplace. In 1995, however, the registration policy was changed to allow for registration in any course, regardless of prerequisites; also, courses were opened up to members of both locals. A ceiling of twenty-five participants has been established for each course, and trainings are usually gender-balanced.

The two Training Trust Funds (IBEW Locals 2309 and 1733) pay the salary for a Program Coordinator to administer the training programs. Members have easy access to this coordinator either directly through

Union Headquarters (which is shared by both locals), or via a toll-free telephone line.

Program Evaluation

A representative of the Training Trust Fund is in attendance at every course to monitor quality and assist in identification of training needs as they emerge. At the end of each course a detailed evaluation is completed anonymously by each participant; these individual assessments form the basis for an Evaluation Report.

ISSUES AND PROBLEMS

Enhancing Participation

To date, about 40% of the bargaining unit has participated in one or more courses offered through the Training Trust Fund. When the participation rate began to flatten out, the Union implemented changes in registration policy (as referred to above) and began teaming up with IBEW Local 1733.

Because members who were naturally inclined to support the Education Program participated readily during the first five years of the program, the underlying problem of recruitment was masked during that time. Now the challenge is to reach out to members who do not belong to a strong learning culture and who may therefore be less comfortable in a classroom environment.

As the Union's experience in adult education grew, so did its sensitivity to the fears that many adults have about training. Members whose childhood experience in the public school system was not positive have often carried this through to adulthood. The fear of failure and ridicule are powerful barriers that are difficult to overcome. In particular, men appear to be less comfortable in a classroom environment than do women.

Employee Response to Public Sector Downsizing

The Canadian public sector is undergoing a massive upheaval that is virtually unprecedented in Canadian history. Public sector downsizing has become the norm at both federal and provincial levels, creating a climate of intimidation and fear. Like other public sector institutions, NB Power is also in the midst of a major restructuring program. These changes will increasingly impact on the entire human resource development strategy of NB Power, inevitably affecting the training needs of employees. Ultimately, there will be fewer jobs, and these will in all likelihood require a higher level of skills.

Interestingly, members of IBEW Local 2309 who have participated in training feel better prepared to deal with the inevitability of change than those who have not. They demonstrate confidence in their skills and a willingness to take on new challenges: a stark contrast to the stress and despondency levels exhibited amongst those employees who are either non-unionized (and have not had similar training opportunities) and those Union members who have not yet activated their right to training.

Ironically, this situation may be viewed as either a problem or an opportunity. Regardless of union status, IBEW Local 2309 is concerned

about the capacity of all employees to adapt to workplace change and is deeply sympathetic to the human costs associated with restructuring. Perhaps it is this issue that will heighten awareness of the need for training and prompt a review of its priority status on the corporate agenda.

Now that We've Come to School: On the Glorification of Training

by Patrick Flanagan

MEETING THE CHALLENGE OF A GLOBAL ECONOMY

Canada has targeted several strategies to meet the needs of a global, and thus more competitive, economy. These include debt and deficit reduction, workforce downsizing in the private and public sectors, modernization of infrastructures, and a much-enhanced focus on the development of the human resources of an enterprise.

This paper will focus on the last of these strategies. In particular, I will examine the implications of the exaggerated emphasis which has been placed on training as the single most important tool needed to address the human resource development needs of the Canadian workplace, or indeed of Canadian society as a whole. An alternative strategy will be proposed.

I take my definition of training from an article by Will Calendar, called "Education and Training", which appeared in the 1994 ABC Canada newsletter, *Literacy at Work*:

> The word training comes from the Latin word *trahere*, meaning to pull or drag. Training...has tended to emphasize the shaping or conforming of people's behaviour to the interests of an external power source: a society, community, corporate organization, trade or profession. Training aims at repetitive behaviour, predictable performance, dependable habit, competence, and skill. Training produces discipline.

THE PROPOSED SOLUTION: TRAINING FOR ALL!

Since the 1980s, training has increasingly occupied centre stage of the federal government's labour force development strategy. Part of the purpose of this focus on active labour market policies includes inducing the private sector to become more involved in the funding of labour market training. This is what lay behind the decision to create labour force development boards in the late 1980s, and was clearly stated as one of government's objectives.

Training has been used in Canada as a response to: unemployment; under-education, including a serious literacy challenge; labour adjustment in sunset industries or in those undergoing radical restructuring; and competition in the marketplace. In other words, it has become a common response, if not the primary response, to a host of significant labour market challenges in Canada.

The attitude has been that some training is better than no training, which in many cases has resulted in a minimal effort to focus expenditures. In response to criticisms of the nation's training record to date, one highly-regarded civil servant was heard to say: "If you think training is not useful in finding a job, try finding one without any training!" Another, describing the efforts of his colleagues in the community college system, enthused, "We train the hell outta them."

This relatively recent (less than a decade old) Canadian infatuation with training may come as a surprise to many European policy-makers, who for many years have considered training as but one response in an arsenal of active labour market policies. The difference in Canada, of course, is that we have depended for so long on *passive* labour market polices, primarily income-maintenance schemes such as social assistance and unemployment insurance, in addition to the more *active* short-term job-creation projects.

Training has been a buzzword in every sector of Canadian society in this decade. Unfortunately, the term is often used interchangeably with the word "learning," in such expressions as "lifelong learning" and "building a learning culture." People tend to treat training and learning as synonymous, which in turn limits consideration of the great diversity of ways to learn, whether the object of that learning is skills, behaviours, knowledge or attitudes.

Despite the glorification of training by bureaucrats and elected officials, federal funding, while still substantial, has fallen considerably and steadily since the late 1980s. Indications are that this trend will continue, and even increase.

OUTCOMES OF THE TRAINING STRATEGY

Reliance on training as a panacea to any labour market ill—and the ills have been abundant in this last decade of the century in Canada and the world—has had several consequences. These include an awareness of the need to respond to a changing economic environment with more than passive labour market measures, as well as less emphasis on other strategies, such as government job creation programs. It has also resulted in a build-up of the training enterprise in the for-profit and non-profit sectors, and in training programs ostensibly set up with learning-related objectives, but in reality used as a route to qualify for extended income support schemes such as unemployment insurance benefits.

Another outcome has been the rise of "employability" as a concept, and as an explicit goal of the bureaucracy responsible for introducing active labour market policies—a result of sloppy thinking about the relatively poor results of training, which appeared to reflect badly on the efforts of employment bureaucracies. It has also led to over-inflated expectations of the role to be played by training, followed more recently by a certain disbelief in its power.

The reckless use and overuse of training expenditures has resulted in a perception of training as something to do when you have nothing better to do, a way of throwing money at a problem. Some people have begun referring to "make-training" projects, a takeoff on the pejorative "make-work" projects of the 1960s and 1970s where the project itself was regarded

as having little value except as a route to unemployment insurance eligibility.

Meanwhile, the strategy's influence on private sector financing of training for the employed workforce in Canada—one of the federal government's stated objectives—remains unclear, as our measures are not sufficiently sophisticated to capture the level of detail necessary to determine training activity, and our measurement efforts are piecemeal and inconsistent.

WHAT WE DON'T KNOW ABOUT TRAINING EFFECTIVENESS

There is not a lot we can say with certainty about the training effort in Canada, for either the employed or the unemployed. For example, we know little about why companies choose to train their employees, or why employees enter training, voluntarily or otherwise.

One might assume that the reasons for turning to training are rational, but there are some who argue that decisions are not always made for the right reasons. They claim, for example, that training grants from government skew otherwise rational decisions made by firms in regard to their human resource development. Others say that the conditions attached to the availability of monies for training prevent appropriate expenditure decisions from being made.

We also know little about the impact of labour market training. In Canada, there has been very little of the linked, employer-employee research which would identify effects on the workplace. Evidence about impact on earnings is easier to find than is evidence about productivity gains, improvements in employee absenteeism and turnover, and changes in employment status. Similarly, we have some incomplete information on outcomes of training for the unemployed, but very little on the effect over time of such an investment.

However, even if answers to these questions were known, the focus on training overly narrows the range of opportunities and vehicles for learning.

CONFUSING THE DESTINATION WITH THE VEHICLE

I would argue that we have focused on the wrong end of the strategy. We have begun by assuming that training is the answer. This has led in some instances to our unconsciously regarding training as the end rather than the means.

If training were clearly viewed as a vehicle to somewhere, then we might be inclined to focus more usefully on the destination, or outcome. This has begun, as questions are asked about where all this training is leading. On the other hand, while "Training for what?" is a legitimate question, it really addresses only part of the issue, because it focuses on the lack of employment. I would argue that a more useful approach is to view training as learning for doing: applied learning.

If applied learning is the outcome sought, then the first question becomes, "Learning for what?" and the next question, "How best to learn that?". To answer this question, we need to consider many factors, such as learner needs, resources available, and the organization's culture, strategic goals and processes.

We could then quite conceivably propose other vehicles or strategies for achieving our learning outcomes, some of which would be more appropriate and accessible, obviously, than training. We could also justify resources being more equitably and beneficially distributed to support these other strategies.

Some of these approaches would include:

- Self-learning
- Prior learning assessments
- Study circles
- Peer learning
- Experiential learning
- On-the-job learning
- Study leaves
- Incidental learning
- Removal of structural obstacles to learning
- Creation of career development systems

WHAT'S NEXT?

The challenge of knowing what works and what doesn't is enormous. This may be particularly true for the new "employability" skills, which might be even less amenable to strict measurement or traditional training methods. These include such skills as leadership, teamwork, communication, and adaptability.

To identify what works, we might begin by using case studies to study the learning achieved in a workplace, and then work backwards through individual cases to identify which vehicles were most useful in achieving those learning outcomes.

Efforts could subsequently be made, through restructuring, work schedules, monies, training, and so on, to reinforce those personal or organizational learning strategies deemed most successful.

To continue to commit resources to a training strategy which fails to account for its outcomes in any measured manner invites warranted criticism. Further-more, it gives learning—an essential strategy for meeting today's economic, social and, indeed, societal challenges—a bad name. Those who fail to make the distinction between training and learning may discard both as misguided and failure-prone for reasons not obvious to them. This would be a significant opportunity lost, coming as close as we have to getting adult learning firmly positioned on the public agenda in Canada.

Don't Shoot the Messenger: Creativity in Education

by Janice Gillies

> Creativity is a celebration of one's grandeur, one's sense of making anything possible. Creativity is a celebration of life... It is a bold statement: I am here! I love life! I love me! I can be anything! I can do anything! (Joseph Zinker, cited in Leland, 1990, p. 14).

Self-confidence, daring, inquiry, a sense of joy: these are some of the essential qualities which educators hope to nurture in their students. Art is the single most powerful discipline to introduce and develop such skills. In this paper the focus for discussing creativity is visual arts and crafts education, because it is through art classes that students are encouraged to explore themselves and their world through their own eyes. There are no answers in art, only the search for unique ways to express individual experience and perception. The focus for the artist is not a competitive one; what matters is the particular medium chosen and the process of solving creative problems which this entails. The product is only one part of the entire spectrum of creativity.

An overwhelming number of definitions and synonyms exists for the concept of creativity, which is one of "continually evolving fantasy, showing imagination, originality of thought, innovation; ambiguous, elusive, flexible, different, self-expressive...sensitive, free" (Guerts, 1996, p. 6). The field of psychology abounds with researchers and scientists whose primary interest is in the creative workings of the mind. Carl Jung felt that creativity emerged from an inward focus, so that introverts would be more likely to be successful in its practice than extroverts. Sigmund Freud believed that Leonardo da Vinci had unusual flexibility of access to the unconscious source of his symbolic expression as well as a strong need to communicate what he found there.

Of course, creativity can be practiced in any field, but it is art education which prepares a student especially well to tap into that mode of thought which is unstructured and free of the contraints of time and space. Every human being has creative potential; the level to which this is realized depends in large part on training.

Brain duality has been the subject of considerable research, which indicates distinct functions for each hemisphere: the autonomous right brain, characterized by visual, expressive and holistic functions; and a much more orderly, logical and verbal left-brain mode. This dual model helps to explain how certain people can excel in two such apparently opposed fields

as science and music. In an effort to distinguish different thinking styles, other researchers have pioneered whole brain creativity training based on assessment instruments which seek to identify, statistically define, measure, and graphically illustrate preferences and distinctions in major thinking styles that can be attributed to the four quadrants of the cerebral and limbic brains.

How does the creative process work? It seems that there are definite steps, which may occur over a long period of time or instantaneously, and may or may not be sequential; these include identification of the problem; preparation (thinking, evaluating various options); incubation (unconscious sorting and assembling); breakthrough (the result of earlier thinking rather than "inspiration"), and resolution (testing the solution). Four levels of creativity have been identified by I.A. Taylor (see Leland, 1990, p. 9):

- Primitive and intuitive: displayed by those with no formal training;
- Academic and technical: the mastery of skills;
- Invention: the innovative use of familiar tools and mediums; and
- Genius, in which accomplishment defies explanation.

The first three levels are attainable by anyone with desire, but the genius category seems to be something that one is born to.

Canada's education system focuses on left brain dominance: providing the "right answer" and using skills that are logical, analytical, and technical; learning by memorization. We are told to be reasonable, to stop daydreaming, to get to work. The playfulness, the wonder of discovery and the imaginative risks we took as children begin to disappear as we work up the ladder of education. When career choice comes into view, art is almost never offered as a choice—and no wonder.

There are no "jobs" for artists in our society, no companies looking to add fifty newly trained artists or craftspeople to their payrolls. Art is seen as separate from the mainstream, unrelated to the workforce. Not surprisingly, art education in our schools is disappearing. In New Brunswick, art and music programs exist in certain elementary and secondary schools only because of the perseverance of dedicated teachers, a forceful parent group, or a sympathetic school administration. Fiscal restraint is dramatically impacting on the classroom, and art is too often viewed as a frivolous option pursued by marginal students who are non-academic low achievers. Art is seen as a closed circuit: art for the sake of art.

The study of art nurtures skills like risk-taking, self-confidence, problem-solving, visualization and the development of personal imagery; it fosters an attitude of experimentation. These are attributes which any well-rounded person should have, especially in an age of such rapid change as ours.

For creation is change, and change—though full of opportunity—is often perceived as threatening. The creative person who can give several "right answers" is needed now more than ever.

But while art educators cry out for recognition and funding, it is the impetus of big business, corporations and industry (the job-providers) that carries the weight, and it is these voices that elicit the response of government. Our society has been promoting computer literacy as a key to success; grade six students, high school graduates and community college

and university graduates will all be required to demonstrate computer literacy before they receive their diplomas and pass from the institution. In fact, schools are scrambling to find the hardware to make this happen; increasingly, it is math and science that are given resource priority.

But don't shoot the messenger, especially when the messenger brings news of valuable human resources. Of course computers are important, but no discipline should be expanded at the expense of another, and art is as central to education as science, math and language are thought to be. If art programs disappear, art will become the pursuit of the elite, accessible only to children of those parents who can afford private art lessons. Future art audiences will fade away if there is no exposure to art in the schools, for children ignorant of art will not visit galleries or purchase art. Who will pass on the history and knowledge of the visual creative process? Who, indeed, will choose art as a career? Prince Charles (Prince of Wales, 1990, p. 18) wrote that when we lose contact with the past we lose our soul; at this point in history we are very much in danger of destroying our collective soul.

The Canadian Government has initiated many task forces on the study of art and cultural training. In 1991 the survey of professional training in the arts in Canada recommended that general arts teaching in elementary and secondary schools be reinforced, stating that "educational institutions do not play their proper role in introducing young people to artistic values" (Supply and Services Canada, 1991, p. 51). In 1995, when we are fighting to save art education in our schools, we might well ask what has happened to the voices from that 1991 report. Have the messengers been shot? But in the spring of 1995 an event occurred which signalled a growing wave of cultural community momentum. *Forum `95* brought together the multidimensional New Brunswick cultural sector to review, re-evaluate and recommend policy, process and programs to the provincial government on the role of the artist and funding commitment to the arts, with the purpose of formulating a vision for the next century.

However, many of our most established Canadian cultural institutions are in danger; some have been granted temporary reprieves due to energetic lobbying, but their future is uncertain. The Canada Council, the funding agency whose mandate is to promote and encourage the national development of cultural talent, has endured serious funding cuts. The Canadian Art Bank initiative has closed: it was Canada's only national repository and active purchaser of the best work of Canadian artists, craftspeople and designers.

There is some evidence that the need for creativity in education is being recognized. For instance, it is increasingly understood at an international level that the function of design is no longer limited to products, buildings and graphics communications, but that it may be a paradigm of problem-solving with universal applications. The Stanford University Graduate School of Business has instituted a course called "Creativity in Business", where tarot cards, shadow masks, meditation and aikido are woven into the curriculum to help release intuitive and creative energy to the focused left-brain discipline of business.

Management styles are changing to reflect a new respect for intuitive thinking. Now managers must know how to encourage and support the

dynamics of their workers' styles of thought. Recent advertisements in the *Globe and Mail* (a Canadian national daily newspaper), ask for "creative thinking and problem solving skills" as a requirement for senior executive positions. A program developed in the early '90s by the University of Art and Design in Helsinki is exemplary in this regard, linking business to design in innovative ways that have international implications.

The New Brunswick College of Craft and Design is organized around a philosophy of developing the whole person in conjunction with training in technical and design skills and the cultivation of an aesthetic appreciation. Many techniques are employed in various studios throughout the College to enable students to access the intuitive and creative processes associated with the right brain.

A lack of judgement and a climate of freedom encourage openness of thought, playfulness and experimentation, as well as the ability to evaluate one's own work. These are the foundations of training at the New Brunswick College of Craft and Design, which offers studios in Clay, Metal, Photography, Fashion, Textiles, Fabric Surface Design, Native Arts and Creative Graphics.

Graduates from the New Brunswick College of Craft and Design go in many directions. A photographer opened a dried flower design and production business that is thriving; the Exhibits Manager and Curator of the Fredericton National Exhibition Centre is a graduate of fashion design; a creative graphics graduate works as window designer for a national clothing chain. The skills and approaches acquired in creative art and craft studies are portable, transferring readily across disciplines. As educators and guardians of cultural creative studies, the College is striving to prepare students for a rapidly changing technological world in a climate of shrinking dollars and declining public support.

The cultural craft sector in Canada has recommended that design, marketing and business skills be taught to craftspeople. It is ironic that educational institutions such as Stanford are moving toward an emphasis on creativity while creative disciplines like art are integrating business skills into their training. Our educational institutions must continually re-evaluate and revise curricula to ensure that students are well positioned for success in an uncertain workforce.

In closing, I would like to quote a dream of where the visual creator in our society could be in the year 2004:

> Artists and craftspeople are the primary creators and innovators of the time—teachers and thinkers. It is common for artists and craftspeople to have residencies in industry as the designers and problem solvers. Neighbourhoods have been revitalized based on the visual arts and crafts. The community as a whole has great regard for artists and craftspeople as productive, tax-paying citizens, and of the sector as a major contributor to Canada's GDP. The strong appreciation for art, design and products made by hand is reflected in the growth of the average household expenditures on works of art over the past ten years—a 25% increase. Those artists and craftspeople who have become very successful, have the stature of stars... All levels of government are involved in generating awareness of the arts...

> Grants and educational support encourage innovation, enquiry and excellence. Children in every school are exposed to the arts. The relationship between visual arts and crafts and industry is strong... Art in public places has become the norm... Artists and craftspeople can exhibit and communicate their work electronically, increasing access to potential markets. In turn they are often involved in research and development of new technologies and their applications... the role of dealers and agents has expanded to include market research... There are regional, national and international art fairs (Price Waterhouse, 1994).

It is time to review the educational significance of visual art and craft training in a world which urgently needs a creative vision. It is time to listen to the message of the artist.

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In-Service Training: A New Challenge in Swedish Advanced Further Education

by Margareta Gisselberg

INTRODUCTION

Reflecting on the title of the Hanasaari conference—"Learning for the Workplace", I thought it might have been subtitled "Learning in the Workplace" to reflect research in the field of adult education which suggests that increased effectiveness and higher cognitive levels of learning occur when course content and assignments are connected to the learner's context, such as a workplace or social environment. This leads us to the conclusion that learning *for* the workplace must be organized in a way that makes learning *in* the workplace possible.

In the Swedish postsecondary education system, this is more easily said than done. My focus in this paper is on how to meet the demands of effective in-service learning and training at the postsecondary level in the workplace. There is no simple solution to the problem, but it is time that our universities woke up and took the issue seriously, for a great many of tomorrow's students will be adult learners with specific experiences and needs.

The challenges of today's educational world can be expressed in three questions:

1. What skills will be needed in tomorrow's world?
2. How can we provide access to a rapidly growing number of adult learners?
3. How can we make education cost-effective?

We may find an answer in collaboration. In the complex and demanding global context in which educators now work, we need to pool resources and listen to each other across the cultural gaps.

A CULTURAL GAP

My own point-of-view originates from within the Swedish academic system, but my concerns are those of a citizen of a welfare state in decline. Part of my job is to help build bridges between the university and the outside world, meeting the demands for learning with an appropriate teaching output. Very often I encounter cultural differences between the world within

the university and that outside its boundaries. The academic system has deep traditions and fiercely protects its self-assumed right to decide exclusively on the content, mode and delivery of education. This attitude greatly limits its ability to make the adjustments necessary to keep up with the rapid changes of the world.

On the other hand, the actors in the external systems we serve find the academic system more and more frustrating, because they do not know how to communicate their demands, and feel that nobody is listening. Furthermore, their demands are sometimes inappropriate, since they do not know enough about how they can influence the system, or what their educational needs really are.

Feelings of inferiority and lack of knowledge are limiting factors in the effort to build bridges. For centuries, the systems have grown apart, and now, within a few years, they will more or less be forced to collaborate. Within the domain of public demands for lifelong learning, universities, public sector institutions, companies, and enterprises are all actors on the same stage, in the same play—but without a good director.

As long as post-secondary education in Sweden is part of the public sector, institutions must adjust to governmental proposals and fiscal regulations. Today, this means that although universities and their departments are autonomous, strict rules and regulations apply in several important areas, for instance the allocation of money per student, staff employment, graduation requirements, and so on: these are serious limitations to strategic change.

A TRIPLE CHALLENGE

Inspired by an unpublished report from the Organization for Economic Cooperation and Development and the Centre for Educational Research and Innovations (OECD/CERI), I will elaborate on what Stephen C. Ehrmann calls "the triple challenge": (1) Quality: 21st-century skills; (2) Access: the new majority; and (3) Costs per student (1994, p. 29).

Quality: 21st-Century Skills

The skills required on the labour market in the year 2000 and beyond will be quite different from much of what is taught in today's academic programs. Skills of thought and action, of analysis and strategic planning, will probably be more important than formal exams which test a student's knowledge about the content of the chosen course. Multi-disciplinary research will probably enhance the quality of knowledge in postsecondary education more than research carried out in single-subject departments. The skill to handle multi-media technologies and work with electronic databases will be in high demand.

Of even greater importance in the years ahead will be the ability to work in teams, where each participant contributes her or his specific skills; and a facility for learning and working in multicultural groups will also be in demand. A creative mind, good language skills, and adaptability to new environments and ideas will certainly be valued in the rapidly changing international labour market.

At the postsecondary level, training and learning for the workplace both now and in the future must meet these needs. As Ehrmann says:

> The technologies that once helped lead education into cloistered campuses are gradually leading us beyond them. The technologies that once led education from conversation in the Grove of Academe to the lecture hall, are now leading learners to a richer and more multi-dimensional relationship with experts and expertise (1994, p. 41).

Such expertise is to be found outside the academic walls as well as within. The problem is to convince people on either side of the cultural gap that collaboration in post-secondary education is urgently needed.

Access: The New Majority

The expression "lifelong learning" describes a situation we have not yet had to face in post-secondary education. We are of course talking about our responsibility to provide further education for adult students. Although the university is demonstrating a growing interest in distance learning and delivery of courses by means of various communications techniques, policy-makers seem to have ignored related issues such as the consequences of computer-mediated teaching and learning, changes in the labour market caused by dramatic structural changes in production, and the shift in values that is occurring in the younger generations.

When we speak about providing access to "a new majority" in secondary education, I believe we are not quite aware of all the emerging possibilities and effects on lifelong learning. For example, at what stage in the study career should there be a "final" examination? Do we really need a graduate level? Does exactly four years of university education produce a competent business manager? Might it not be three-and-a-half years for Mr. X and four-and-a-half for Ms. Y, depending on their respective interests and strategic career planning? Who is best equipped to decide on their course content?

Lifelong learning means individually planned study careers, not necessarily completed on campus or structured in the usual academic way. It means heterogeneous student groups in which differences in age, experience and interest will seriously challenge traditional planning. It means demands for open access to post-secondary education, and competition between educational institutions; tomorrow's students will have more choices, due in part to fewer constraints of distance.

Cost per Student

The challenges discussed above are closely connected with the financial issue, especially in a welfare state where the intent has been to make education free of charge. In a shrinking public sector, however, secondary education will not be exempt from cuts. When education is no longer free, what will competition be like?

We can learn from institutions in more market-oriented countries. If a course of learning is to attract applicants, it must bear evidence of high quality and an up-to-date research base, and it must also be perceived as relevant to a current work situation or a future career.

In addition, education must be based on the student's own knowledge and experience, for the very phrase "further education" implies a prior history of learning. It must also be cost-effective, because youthful and adult learners alike, as well as paying employers, will look closely at the price tag. Time is money, even in education, and the less time spent on commuting and studying, the better for everyone concerned. As well, an awareness of the technological possibilities in computer-based training will direct the buyer's attention towards institutions with a good reputation in the field.

But there will be demands on the students as well, for cost-effective students must take more responsibility for their studies; cost-effective students must pass their tests and exams.

IS COLLABORATION THE WAY?

Collaboration between the actors in educational and training institutions and amongst learners in study groups is often posed as a solution. Current concepts such as resource pooling and networking are central to the field. Since institutions in our country have begun to face increased international competition, they are more eager to cooperate—even if they do not quite know how to do so. Collaboration at a European level, in service of a united Europe, is now a fact that we must deal with.

In collaborative learning, with social bonds created through networking and local meetings in the workplace, students tend to achieve better results than in an isolated study environment (Burge and Roberts, 1993). Project-based studies in which theory and practice are merged tend to be more engaging and enriching, so successful students are those who can collaborate with their study peers on a per-project basis.

If collaboration is the answer, how do we do it in the context of a competitive global environment? As usual, I think it must be done at the grass-roots level, using our common sense to develop networks and partnerships while we wait for our boards and governments to decide on which policies and financial guidelines will govern the rapidly growing sector of lifelong learning. The Nordic-Canadian conferences are a good example of collaborative efforts that stimulate and enrich our work in this field; another strong example is the EuroStudyCentre (ESC) Network, an executive branch of the European Association of Distance Teaching Universities (EADTU), which provides educational and training services and products across European borders. About forty-five ESCs are operating in sixteen countries, most of them serving their own networks of smaller study centres.

CONCLUSION

We already know at least enough to start acting. During the past two decades, research into distance education and technological development has given us reliable insights and enabled us to build new teaching and learning models suitable for adult learning in the workplace. Together, we must develop the following resources:

- Systems or models that can both identify and meet the demands for adult education;

- The application of information and communication systems for learning purposes;
- Learning models based on study groups in the workplace or at the local study centre;
- Newer, more cost-effective systems for planning and organizing open distance learning;
- Study-skill training, study planning and pre-course counselling; and
- Course evaluation models that are applicable for open and distance learning.

We surely need our joint resources to meet this workload! I would like to offer some questions to guide further reflection in this area:

- What is the future of universities as providers of advanced further training of the workforce? How can they be helped to adjust and attract adult learners?
- Will the traditional structure of academic degrees and exams be of interest to adult learners? Will graduation be as attractive to those learners who operate outside the academic system?
- What are some strategies for adjusting to the probability that there will be a price tag on continuing education in the future? How can we adjust to a competitive situation in which adult learners make choices on an open market?
- Is it possible for universities and private enterprises to collaborate on advanced further education? Where do we begin?

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Industrial Adjustment Services: A Participatory Process for Dealing with Change

by Joakim Hermelin

INTRODUCTION

The Canadian silviculture industry is a rapidly developing segment of the Cana-dian forestry sector. Changes in legislation, globalization of markets, demands for product certification, management systems and labour are all factors influencing development. Also affecting the industry are concerns related to wildlife habitat management, biodiversity and sustainability.

Represented nationally by the Canadian Silviculture Association, the industry has used the Industrial Adjustment Services (IAS) process to address current and future concerns. Offered by the federal government department of Human Resources Development Canada (HRDC), this democratic participatory process helps stakeholders to identify and priorize issues, and to develop strategies for dealing with them.

This paper provides a brief description of the Canadian forest sector and silviculture industry. It also describes the IAS process in principle and in particular its application to a project developed by the Canadian Silviculture Association.

AN OVERVIEW OF FOREST RESOURCES AND MANAGEMENT

Canada is in a unique position among the world's forested nations because 94% of its forest resources are in public hands. The federal government owns 23%, provincial governments own 71%, and some 425,000 private forest land (woodlot) owners control another 6%. Private ownership is mostly concentrated in eastern Canada, in the Atlantic provinces, Quebec and Ontario.

Canada has about 10% of the world's forests and 14% of its softwood resources. Of the country's 416 million hectares of forest land (almost half of the total land area), 156 million are classified as "non-commercial". A further 50 million (12%) are protected by law from harvesting, while 91 million are potentially available and 119 million are currently in use.

The forest resources form a vital part of the economy, supporting over 350 communities and providing 800,000 direct and indirect jobs. They also support a multi-billion-dollar tourism and recreation industry.

One of the world's largest producers and exporters of sawn lumber and pulp and paper, Canada ships about $50 billion worth each year. The 1992

annual round wood production was about 170 million m^3 (148 million m^3 softwood, 22 million hardwood). Canada also produces 4 million cultivated Christmas trees and 18 million litres of maple syrup each year. Canada plays a leading role in world efforts to establish international conventions covering biodiversity and sustainable forest management.

Individual provinces, responsible for management of their publicly-owned forest resources, enter into long-term forest management agreements with forest products companies. Under these agreements, the company is allowed to harvest up to the annual allowable cut if it carries out the identified and agreed-upon silviculture activities, and the provincial government, as owner, receives royalty payments for wood cut. Some basic silviculture is included in the agreement, while other related activities are paid for by the government's use of public funds. These management agreements also deal with environmental concerns such as clean water, biodiversity, and fish and wildlife habitat.

The Canadian forestry sector is currently undergoing major changes related to the legislation that governs forest management and how this management is carried out and paid for. Canada is under international pressure to assure its customers that forest products come from sustainably managed forests, and that the management work of harvest and silviculture is done by properly trained and certified workers.

Taking into account that Canada's forest sector is divided amongst provinces, and that approaches to management and training vary from jurisdiction to jurisdiction, the country has a major development project on its hands.

THE CANADIAN SILVICULTURE INDUSTRY

Traditionally the forest sector relied on natural regeneration when it harvested wood; the advent of an intensive forest management program has meant that the Canadian silviculture industry has grown by leaps and bounds, active in such efforts as planting and pre-commercial thinning.

The work of silviculture is mainly carried out by independent contractors in a system where work is allocated through public tenders and the contractor paid upon successful completion. These contractors vary from one-person businesses to large corporations with operations in several provinces.

Most silviculture work is seasonal, with high turnover rates between seasons, especially amongst the planters. The level of training varies widely, and work safety and training are issues controlled by provincial governments.

Because the quality of work is dictated by management agreements and tender documents, quality is sometimes sacrificed for volume production because the lowest bidder does not always do the best work. This situation can also lead to poor working conditions, high accident rates, heavy turnover and in some instances, labour abuses. The silviculture industry currently has little or no input into the development of silviculture standards or the allocation of work.

It was this fractured approach, together with an uncertain future with respect to funding and work security, which prompted the provincial

silviculture organizations to come together and request an IAS project at the national level.

THE INDUSTRIAL ADJUSTMENT SERVICES (IAS) PROCESS

The Industrial Adjustment Service (IAS) is a participatory process offered by the federal government department of Human Resources Development Canada (HRDC) designed to help businesses and organizations deal with change; it can be used at the local, regional or national level to address the problems associated with start-up, expansion, organizational change and downsizing.

An IAS project is a contractual agreement between HRDC and the applicant organization that sets forth the framework for the project, outlining goals and objectives as well as services offered by HRDC, and identifying the participants and their organizational formats.

It is a process which requires balanced representation from labour and management both, including tangible contributions from the stakeholder in funds or in kind (for instance, services or travel). HRDC usually provides a resource person and some funding; and the group appoints a chairperson from within or hires an independent facilitator.

Flexible and accomodating, the IAS process is designed to empower the stakeholders to explore what are often contentious issues and to develop strategies for dealing with them. Decisions are usually made by consensus, which creates a feeling of ownership in the final product—an essential ingredient when it comes to implementation of change.

An IAS process does not focus exclusively on human resources problems, but must often deal with associated issues like education and training. The larger process of change may require, for instance, skills upgrading, the re-training of workers for other tasks within an organization, or training to improve the employability of displaced individuals.

Although an IAS project can bring forward pertinent issues and concerns to different levels of government, it does not replace other labour market responsibilities or instruments as expressed in existing legislation or labour market agreements. Its primary purpose is to provide a vehicle for helping stakeholders deal with change.

THE CANADIAN SILVICULTURE ASSOCIATION (CSA) PROJECT

The Canadian Silviculture Association (CSA), a national umbrella organization representing provincial silviculture associations, promotes sustainable, environmentally sound forest manangement. The CSA represents the industry in all activities which affect its membership, such as policy development, training and worker safety; it seeks to support efforts to establish national occupational standards for work in the silviculture industry.

In light of the changes facing the industry, the CSA applied to HRDC for an Industrial Adjustment Services project on the Canadian silviculture industry as a whole. In its application, the CSA identified two major tasks:

- To identify issues perceived as obstacles for the orderly operation of the industry.
- To develop and promote strategies to deal with these issues.

The committee formed for this project featured an equitable representation of employers and employees, as well as Canadian regions, and also included aboriginal representation. The federal government had one representative from HRDC as the major funding agency, and a resource person from the Canadian Forest Service. Each province had one representative with a background in forest vocational training. The IAS committee chose to hire a consultant to act as a chair/facilitator, and administration was the responsibility of the CSA office and staff in Nova Scotia.

The IAS committee met for two days in Hinton, Alberta and then for one day in Toronto, Ontario; telephone conference calls were also used. The long and intensive discussions resulted in agreement on the following issues, listed here in the order of importance awarded by the committee: (1) training and effectiveness; (2) recognition; (3) profile; (4) funding (federal/provincial agreements); (5) funding flow (how money is used); (6) value versus price (low bidding); (7) aboriginal inclusion; (8) labour abuse; (9) labour displacement; and (10) internal issues of association.

To facilitate dealing with the issues, the committee agreed to group items together, creating the following categories:

- Recognition and profile.
- Funding and funding flow; value versus price.
- Training and effectiveness; human resources issues; labour displacement.

It was agreed that aboriginal inclusion should not be dealt with as a separate issue, but rather integrated into all the issues.

With these steps completed, the committee decided to concentrate on three tasks:

1. To develop a national silviculture industry database, to be accomplished by asking each provincial CSA member to collect and compile provincial data into an industry profile. The provincial data would then be assembled into a national profile and database. This information would be used to raise the profile of the industry; and also as important background for discussions and negotiations with various levels of government.
2. To strongly recommend to federal and provincial jurisdictions that they cooperate in the development of industry-specific national occupational standards for silviculture. These standards can then be used to develop training packages; in addition, they will serve as a base for the potential future certification of silviculture workers.
3. To strongly support efforts to normalize and standardize silviculture funding and to extend the working season for all workers involved.

When this paper was written in May 1995, the CSA was working on the database project, and the other two issues were awaiting its completion.

CONCLUSION

The strength of the IAS process is in its flexibility. Although this is not a new concept, it is one which encourages an innovative and creative approach to problem-solving on the part of participants. One question

arising out of my own participation in the process is how stakeholder involvement and productivity might be increased throughout the IAS process. In a more specific context, I would pose the question of how skill training for a seasonal industry with a large proportion of transition labour can be organized.

Weaving a Masterpiece: New Ways of Living, Learning and Working together

by Kathleen Howard

INTRODUCTION

When economic times are tough, staff morale low, and customer service fragile, some public sector organizations in Canada ask themselves how they can move into a healthy, revitalized future that effectively serves employees, organizations, and communities alike. Factors such as the global economy, the Free-Trade Agreement, and the national debt have figured prominently in an increase of tension within the public sector. Combined with new relations at the global, federal-provincial and provincial-municipal levels, these factors are responsible for public sector struggles to strategize new ways of doing business.

For the past four years, the Canadian public sector has been refining, reorganizing, and re-prioritizing the way in which business is done. Public and private organizations in Canada have been undergoing extensive restructuring, a transformation that has produced significant changes in the areas of cross-functional teams, job rotation, quality circles and process re-engineering, to name just a few.

In the private sector, where the "bottom line" dictates competitive requirements, the purpose of re-examination is basic survival. Public sector organizations, on the other hand, are operated according to national, provincial and local political priorities, a fact that casts quite a different light on the opportunities and challenges associated with survival. The heightened public perception of the national debt in Canada is such that governments at all levels are rapidly being forced into new ways of operating.

Traditionally, being a public servant meant full-time work, strong collective agreements and, most importantly, secure employment followed by a healthy pension. But nothing is sacred in these tumultuous times. In 1992, for instance, the Ontario government developed a "social contract" with employees which was a radical enforcement of time off without pay. Other provincial governments are experimenting with similar cost-saving strategies.

It is safe to say that employees felt angry and abused. Although this particular intervention saved money, it cost the government severely in terms of a rising tide of dissatisfaction and low morale. On the other hand, it sent a strong message that the economic realities were serious and new work arrangements were required.

Although the primary motivation for organizational change in this context is financial constraint, progressive public sector agencies believe there is a place for strategies aimed at enhancing productivity and service. Many private and a few public sector organizations are experimenting with employee involvement interventions, based on the premise that employees know best what clients need and therefore understand how to re-vamp existing systems to facilitate a quality service that is also cost-effective. The belief is that engaging employees in an ongoing review of services will produce a healthier and happier workforce.

In addition to experiments with employee involvement initiatives, there is a growing interest in the concept of "learning organizations" as a way of the future. Employee involvement is at the heart of this theory, which posits that (1) individuals are essential to the health and success of organizations; without their development to meet evolving challenges, organizations and communities will die; (2) the whole is greater than the sum of its parts, which implies work structures that involve teams and team learning; and (3) the health of a system entails a sound working relationship amongst its connecting parts. The theory of learning organizations has as its premise the notion that individual involvement in the form of egalitarian teams will create a system better prepared to face a high-change future.

This paper now turns to one example of a public sector agency and its efforts to create a learning organization. Although this story is still an open-ended drama, early indications of positive social and economic impacts are impressive.

BECOMING A LEARNING ORGANIZATION

In the Canadian province of Ontario, the Office of the Registrar General (ORG) is located within the Ministry of Consumer and Commercial Relations (MCCR). Everyone in Ontario uses its services, since its mandate is to record, certify and provide information on vital statistics such as births, adoptions, marriages, name changes, divorces, and deaths. Each year the ORG deals with 360,000 registrations and 530,000 proofs of registration. Unlike many government service agencies, this one can readily quantify productivity.

The Northern Ontario Relocation Program was created in the late 1980s to promote economic development and establish a greater provincial government presence outside of Toronto, the provincial capital of three million. The ORG was one of those departments designated to move from Toronto to Thunder Bay, a community of 100,000 people located 1500 kilometres north. Only six of the 150 employees in this department relocated to Thunder Bay, with the balance re-deployed to new jobs in the Toronto area. Needless to say, productivity and customer service levels fell drastically, resulting in an escalating backlog of unfilled requests. What follows is a description of the process used to address the enormous challenges raised by this move.

The backdrop for this story involves more than staff turnover and productivity issues. Organizationally and administratively, the ORG was riddled with weaknesses; for instance all transactions—walk-in, mail and phone requests—were performed manually, which meant that the potential

for mistakes was high, retrieval was inefficient, client confidentiality was at issue, and the threat from fire hazard was ever present.

Workers had a narrow, constrained job focus. As one staff member describes it, they could learn their job in about twenty-five seconds, and then had to repeat the same function for another year or two before moving up the ladder to a job that might require a learning curve of five minutes. There were several layers to each job function and multiple pay ranges, which created understandable inequities within the ranks. Regular business hours excluded the needs of many clients, as well as those of individual staff.

Moving to Thunder Bay posed enormous challenges as well as creating opportunities for innovation. Some of the basic assumptions that framed the idea of relocation included the belief that people have both the right and the need to work; a return on investment is an important measure of success; and new kinds of partnerships are crucial to successful organizational transition. Of course the government's mandate of cost effectiveness and downsizing, as well as its focus on service to clients, were primary factors in the relocation.

The story of this transition is especially interesting because it opposes most public sector change processes; a key role can be attributed to Art Daniels, Assistant Deputy Minister at the time, who maintained a strong personal vision for this line department. It was his belief concerning the right to decent employment as a means to self-fulfillment and community commitment that helped create a fertile soil that nurtured the transition to maturity.

Central to this kind of shift is the understanding that the process is open-ended; as long as there is learning, individuals and organization alike will continue to evolve. Senior ORG staff describe the transition as "going on a journey of excellence across organizational paradigms." Some of these paradigm shifts are outlined below.

TECHNOLOGY AND PARTNERSHIPS

Partnerships between the public, private and non-profit sectors were successfully negotiated, much to the chagrin of those who were averse to risk. When shifting from manual systems to automation, the risk avoiders protested that the technology was not tested, conversion would be too massive, it would cost $3 million and take sixteen months, and staff must be computer literate to carry it out.

As the new technology of Automated Data Images was implemented, some 10.4 million paper documents were converted to laser disk. A partnership was struck with Goodwill Industries to use computer-illiterate workers who were receiving government assistance. The risk-takers significantly surpassed their original goals: 10.4 million documents were converted in half the time projected by the risk-avoiders, and not only did it cost $1 million rather than $3 million, but 86 new staff (on government assistance and without computer literacy skills) were transformed into skilled workers and in the process saved some $7 million in government assistance.

The investment in technology is seen to be paying off in terms of enhanced customer service, better protection of the integrity of records,

reduction in storage costs, and a reduced labour requirement to manage the records.

In preparation for the move to Thunder Bay, MCCR initiated other partnerships—at three levels of government and with the non-profit sector—through an inter-agency, community-based steering committee. The Canadian Employment and Immigration Commission (CEIC) contributed a six-month job-readiness training program for 80 job candidates and agreed to follow up with a two-month job placement program.

ENHANCED JOB SATISFACTION AND THE SHIFT TO TEAMS

Individual employees within MCCR have moved from a mechanistic mode of working to one that is organic. Specifically, individuals changed from constrained to flexible job behaviours and from a narrow to a broad work focus, including a transition from a means orientation to one of results, and from functional job aptitudes to a multi-skilling approach.

Egalitarian teams of individuals within the same job classification were implemented to carry out the day-to-day work. To encourage team representatives to continue learning those skills needed to realize the team's mandate, a pay-for-knowledge plan was designed in which the worker begins at an entry skill level with little knowledge of the work, and progresses through five knowledge levels for each job function in the team. Opportunities to develop generic skills such as decision-making, problem-solving and interpersonal skills are integrated into work life.

Team passports have been created to acknowledge and verify employees' acquisition of new skills and knowledge. Unlike other workplaces, this process is administered within applied adult education principles: the employee chooses when and how they will be tested.

PARTICIPATIVE, FLAT STRUCTURES

Striving for an organic type of structure, the ORG shifted from a hierarchical to a participative organization in which "tall" structures gave way to those which are "flat", management was decentralized, and egalitarian teams became the pivotal organizational unit.

The Office of the Registrar General is now a three-layer organization comprised of customer service representatives (who have replaced inquiry clerks, revenue clerks, data entry clerks and microfilm operators), team managers, and the Deputy Registrar General.

TRANSITION TO DIVERSITY AND FLEXIBILITY

To incorporate diversity, MRCC worked with an inter-agency group that included physically- and mentally-challenged individuals, sole-support parents, First Nations people (aboriginals), visible minorities, and francophones. In order to create an accessible workplace, decisions were made to: apply technology in service of disabilities; create alternate work arrangements for disabled individuals and working parents; provide physical access to the building and office; implement pre-training opportunities for job entry; and shift to an egalitarian, pay-for-knowledge system of compensation.

The ORG moved dramatically from conditions of rigidity to a system of flexible arrangements with respect to individual needs and choices; they moved from standard hours to variable hours and alternate work, and provision of links between work-life and personal life. Over 80% of this workforce presently participates in alternate work arrangements, and the second organizational staff survey in 1993 revealed an overwhelmingly positive response to these provisions. In addition, a workplace childcare program, fitness centre and fitness breaks, and an employee assistance program are all fully operational.

RESULTS

Personal interviews with staff at all levels of the pay-scale indicate wholehearted support of the new learning organization. Staff turnover is minimal, productivity has greatly surpassed the old standards, and the technology is proving to be a sound investment.

The process of transition provides evidence that people previously labelled employment-disadvantaged and falsely stereotyped as lazy are able to make significant contributions within an accommodating workplace.

In the six years between 1988 and 1994, numerous outcomes of the change process have materialized. Customer service hours have increased substantially, and waiting time for inquiry services has become almost negligible. The automated environment has meant that credit card payments could be accepted.

In addition, revenues went from $11.7 million to $26.4 million, and there were no layoffs. However, staff numbers went from 166 to 73 through re-deployment, attrition and retraining.

BARRIERS TO CHANGE

There are several reasons why organizations falter when it comes to implementing strategies for a revitalized future. In some workplaces it is senior managers who are the visionaries, and employees fail to feel ownership or responsibility where change is concerned. Peter Senge (1990) writes about the continuum of attitudes towards future visions that range from apathy to commitment. Any-thing less than the latter, however, can produce intense inertia and a resistance that will slow down or prevent innovation.

Workplaces that seek a different future most often partake in intensive problem-solving pocesses as a prelude to their transformation. Ron Lippett (1983), however, found that workplaces and community groups who used a "preferred futuring" or visioning methodology—as opposed to their counterparts in problem-solving models—increased their energy and sense of ownership of the situation, thereby enhancing the likelihood of more innovative and future-oriented goals.

Sometimes the people within organizations are unclear about what changes are necessary and how new ways of servicing clients can impact on their work. It is like the child's game of "telephone," where a clear message is whispered from one person to another until the last person

relays a message that is entirely changed from its original version, signalling profound communication challenges. Poor communication in organizations that are trying to make changes can inflate the sense of chaos to a point where many workers will be immobilized.

Another reason why organizations falter when implementing their strategies for change is that the process is so long and tedious that the impacts can easily get lost in fighting day-to-day fires. Stan Davis's (1987) notion of "real-time implementation" challenges traditional distinctions between planning and decision-making and implementation.

Noah Meltz and Anil Verma (1994) link the slower rate of public sector development and change to higher union densities, which restrain interventions based on employee involvement. The union perspective focuses on fears about layoffs, downsizing, deteriorating working conditions, diminished influence, and lower wages. Any process of complex change will therefore require a critical revitalization of the relationship between unions and management.

Furthermore, the financial crisis has led governments to explore a variety of cost-cutting strategies such as privatization and contracting out. Severe financial restrictions create an aura of fear, and as Hebdon and Hyatt remark, "enhanced workplace participation and teamwork are less likely under threats of layoffs" (1994).

Another reason why organizational change can falter is a lack of understanding that organizations are only as healthy as their component systems and the interrelationships that connect them. The complexity of aging workplaces is explained by Kathleen Dannemiller (1992):

> ...horizontal hierarchies intersect with vertical chimneys (created by specialization) which leads to rigidity, or arthritis, of the joints. This means the organization as a system is not flexible or adaptable either to the internal work flow requirements or to changing external environments (p. 483).

As Dannemiller says, the problem with the 1990s is that mature organizations with reduced flexibility are facing a competitive, fast-changing environment that demands rapid response. Working with the whole system can increase the possibility of enhanced information flows, a systems focus, and faster overall responses.

Unlike many private sector companies, public sector corporations have an extensive labyrinth of policies and established procedures to contend with, and particularly at the provincial and federal levels of governments in Canada, the civil service bureaucracy can be an overwhelming obstacle to the implementation of organizational transformation. Efforts to simplify supervisory lines of accountability may come into collision with the "multiplicity of levels" inherent in a civil service that may also possess "veto powers over innovation at lower levels" (Hebdon and Hyatt, 1994, p. 4).

CLOSING REFLECTIONS

In considering the case of the MCCR in Ontario, certain broader questions are raised in relation to the public sector and transformation to learning

organizations; for instance: How can the public sector continue to serve citizens and communities well? Which organizational change practices benefit unions, employees and the organization as a whole? What is the impact of involving employees in the process of change? Does learning play a role in public sector agencies that are especially responsive? Is the story of MCCR a common one, or is there much more to be done, across the board, in public sector organizations facing imminent change?

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International Recognition of Engineers: the EurEta Register

by Erkki Husu

INTRODUCTION

The European Higher Engineering and Technical Professionals Association (EurEta) is a new international confederation which provides for the mutual recognition of registered professionals throughout Europe, while safeguarding high technical standards. At the end of 1994, the EurEta Association had seven national members and four observers. Together with registers such as the European Federation of National Engineering Associations (FEANI), EurEta serves to extend professional engineering standards of competence through Europe and potentially throughout the world.

BACKGROUND TO THE EURETA ASSOCIATION

Since 1951, FEANI has represented European engineers; today it has a membership of twenty-two countries. Prior to 1985, the FEANI register was split into university and college-level engineers, but the FEANI federation decided to amalgamate both levels, and after seven years of preparation, a new register which superseded all other editions was approved in September of 1992.

In the new register, the minimum standard of education was set at B + 3U, where "B" represents a high level of secondary education and "U" a full-time year of approved engineering education. However, the minimum standard for registration in FEANI as a European engineer was based on a total of seven years, comprising B + 3U + 2 (U and/or T and/or E) + 2E, where "T" represents a year of full-time training through a program and "E" represents a year of relevant full-time engineering experience.

Because two years of education were no longer enough to qualify for this register, many European engineers who had been members of the national committees of the FEANI Federation (e.g. incorporated engineers in the United Kingdom) were dropped. The issue concerning the status of this group first came under scrutiny and serious discussion at the meetings of the FEANI Federation in 1991, when preparatory work for the new register was underway. Chairman for the group of displaced engineers was Professor Friedrich Mitschke from Austria.

My first involvement with the working group was their fourth meeting, held in May 1993 in Vienna; countries represented at that time were Austria, Finland, Hungary, Sweden, Switzerland and Great Britain. It was here that

the solution of a second register was formulated, and on May 10, 1993, in Aarau, Switzerland, the necessary statutes were accepted by the working group, and the European Higher Engineering and Technical Professionals Association (EurEta) was established.

Four months later in Vienna, the EurEta Association was ratified by the new Board, the Registration Committee, and the auditors; the first president, Professor Friedrich Mitschke, was appointed, along with the Chairman of the Registration Committee, Principal Martin Eppler from Switzerland, and Vice-President Brian Mott from the United Kingdom. The seat of the new association was in Vienna, Austria. Established as an international association according to Austrian association law, it was stipulated that national members would be European organizations representing higher engineering and technical professionals who could meet standards approved for inclusion in the EurEta Register.

PROCESS OF FORMING THE NEW REGISTER

Every country involved in discussions about the new EurEta Register understood that its foundation was the national education system. Because such systems vary widely throughout Europe, the Registration Committee received numerous proposals from member countries. Austria and Finland, for instance, proposed a system of levels for the register; Italy, Finland and Hungary suggested alternative routes to the registry; and Italy, along with Central Europe, proposed a variety of teaching methods. Italy emphasized an apprenticeship contract system at the level of engineering education.

The educational level of instructors was an important issue for Finland and Hungary, both of which favoured a Master of Science degree; Finland, the U.K. and Sweden stressed the level of mathematics in the engineering curriculum; and communications facilitated by at least one foreign European language was proposed by the U.K., with English as the universal language for all incorporated engineers. All countries agreed that the formula must maintain minimum acceptable standards relating to the duration of engineering education. In addition to the delegates of member countries, there were observers from Denmark, Greece, Germany and Norway attending these meetings.

It was agreed that the educational standard must include all of the following factors: quality of organization and infrastructure; potential quality of educational system; and actual quality of education. Proposals could therefore be evaluated within this framework, because each item covers one or more factor; for instance, curriculum is one, job placement of qualified persons is another, and so on. It is possible to deduce actual educational levels from job performance, for instance; excellence in mathematics can reveal the level at which a professor should be teaching professionally.

We sorted proposals into two groups: those that were very liberal, coming from Austria, Hungary and Italy; and those that were more demanding and detailed, from Finland, Sweden, the U.K. and Switzerland. The first group could lead to a broader and more inclusive register, while the second might result in a more exacting register formulated on the basis of several kinds of examinations, thereby excluding more engineers in the end.

THE EURETA REGISTER

In October of 1994, agreement was reached on a final version of the EurEta Register; the decision was made to focus on one main group and add others only as examination applicants were ready for assessment. The anticipated applicants would be from a variety of groups represented at EurEta meetings, including technicians, industrial engineers, and a range of other engineers at varying levels from several European nations.

An engineer registered with EurEta is called a EurEta Registered Engineer, and can use the designation of *Ing. EurEta*. To be registered as an engineer with EurEta, a candidate must satisfy the following minimum requirements:

A + 3ED + 2TR + 3EX, or

B + 2ED + 1TR + 3EX,

where the abbreviations stand for:

A: Secondary education demonstrated by the award of a nationally recognized diploma at about the age of 16 years.

B: Secondary education at a higher level demonstrated by the award of a nationally recognized diploma at about the age of 18 years.

ED: A year of accredited full-time (or the equivalent in part-time) engineering education undertaken at an establishment of higher education or its equivalent, as part of a program that leads to the award of a higher engineering diploma.

TR: A year of accredited technical engineering training undertaken as part of an engineering program.

EX: A year of relevant and responsible engineering experience assessed and approved by an official body.

The general competence expected of EurEta Registered Engineers can be described in terms of the following achievement levels:

- A good understanding of their profession and of their responsibility to colleagues, employers and clients, as well as to the community and the environment;
- A thorough knowledge of the scientific principles of their profession, such as mathematics, physics, and informatics appropriate to their discipline;
- A general knowledge of good practice in their field of engineering and of the properties, behaviours, fabrication and use of materials and components;
- The ability to understand and apply principles and procedures of construction and control necessary for economical production and maintenance;
- Logical understanding and an ability to interpret technical information and statistics;
- Clear oral and written communication skills, including the capacity to formulate clear reports and orders;
- A good knowledge of industrial relations and the principles of management, taking into account technical, financial and human considerations;

- The capacity to mobilize human resources, to head a team and to work on multidisciplinary projects (EurEta, 1994).

Also, it was decided that EurEta registered engineers should be aware of their roles as European professionals and as such be able to communicate in more than one language.

CONCLUSION AND EVALUATION

This version of the EurEta register is very similar to the FEANI Register. In both, the main requirement for inclusion is time—the years required to satisfy the various components of certification. The European Union has proposed a similar formula (EEC, 1989), in a system for the recognition of higher education diplomas which is even more general, comprising a higher secondary education plus three years of education.

The EurEta Register Committee is now examining such issues as the curricula and objectives of applicants' professional development. The Committee is compiling a list of the accepted institutions of higher education. Comparing full-time educational systems, for instance, we know that in Europe the relationship between the duration of an educational program and subject area is crucial to a high-quality practice.

The future of EurEta looks good. We know that there is a need for technological advance in industry, in services and in society as a whole. Higher engineering and technical professionals are working under the standard of the FEANI Register in all the European countries; many work in the international field, so it is important for them to be certified at a generally recognizable and acceptable level of professional competence.

Of the two, the FEANI Register is still better-known in Europe, because it is older and has more individual members—approximately 1.5 million. But in a few more years, EurEta will have as many or even more members. Representation is as important as numbers, because the influence and authority of a register is related to the range of its membership and jurisdictions. Although many employers are aware of the FEANI Register, there are still many who are not; in this respect, EurEta must also make itself better known to employers everywhere.

We now find that outside EurEta there are engineer groups such as the German *Diplomingenieurs* and engineers from French universities who are suitable candidates for the register (Kemppinen & Nyrén, 1993). International certificates can be especially helpful to French engineers, who come from a wide variety of engineering education programs.

It is possible for an engineer to advance from one register to another through adult education; for instance in Finland there is a program that under normal circumstances takes two years and upgrades a technician engineer with membership in EurEta to a full engineer qualified for registry with FEANI.

Today, because economic markets are international, engineers must be prepared to access global employment. We need a world-wide recognition system which extends the range of registers, and the European Higher Engineering and Technical Professionals Association (EurEta) is positioned as a strategic link in the globalization of professional standards.

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An Effective Way to Enhance the Employability of Unemployed and Active Workers: The Joint Employability Program

by Robert Isabelle

INTRODUCTION

In Canada, better ways must be found to assist the unemployed in acquiring the competencies they need to either find work or create their own jobs. At the same time, active workers must be helped to adapt to the ever-increasing demands of jobs, to become more competent and develop to their full potential; they must also be supported in labour market demands for greater mobility and transferability in the event of lay-offs or the desire for more suitable work. In short, Canada needs innovative and effective models to enhance the employability of the unemployed and the active workers.

In November 1991, the federal department of Human Resources Development (HRBC) agreed to fund a project submitted by Robert Isabelle and Associates to experiment with such a model for the unemployed as well as active workers. Called the Joint Employability Program (JEP), this model was initiated in the United States some fifteen years ago, where its successful use is quite widespread.

The experimentation was conducted with a group of 28 unemployed persons from the Acadian Peninsula (Province of New Brunswick); with 32 out of 350 employees of Island Telephone (Province of Prince Edward Island); and with approximately 10% of the 14,000-strong workforce at General Motors (Province of Ontario). The project lasted for 31 months and ended on June 30, 1994. Two evaluation reports were published, one dealing with the three pilot JEPs and the other focusing on the Acadian Peninsula JEP (Dean and Flanagan, 1994; Flanagan, 1994).

This paper will first describe the Joint Employability Program. Secondly, it will summarize the results of its experimentation in New Brunswick, Ontario and Prince Edward Island. Thirdly, it will identify the factors underlying the success of the experimentation.

DESCRIPTION OF THE JEP

The JEP is set up and directed jointly by Canada Employment Centres and various social partners, in the case of the unemployed; where active workers

are involved, employers and unions or committees representing employees do the organizational work. In the latter case, governments are expected to provide financial and other forms of support for the implementation and operation of the program.

In order to enhance the employability of the unemployed and of active workers, the JEP offers them educational and training opportunities centered on their personal aspirations and aptitudes, together with a wide range of educational and support services.

More precisely, the JEP includes the following eight components:

- Proactive outreach to the unemployed or active workers, wherever they are, to inform them about the program and encourage their participation;
- 15-hour workshops (presented in five 3-hour modules) to help them identify their aspirations and aptitudes, to relay information on labour market and educational opportunities and to assist them in developing realistic career and training plans;
- One-on-one counselling (career and academic counselling), either to supplement or replace the workshops;
- Career and training plans approval by counsellors and the program coordinator;
- Prior learning assessment (granting of credits for non-academic learning that is equivalent to academic learning);
- Follow-up of participants during their training;
- Training as such (centered on participants' aspirations and aptitudes);
- Prepaid fees for training and other services.

In order to provide adequate training and related services to the large and diverse populations involved in this program, networks of educational providers must be in place, including organizations such as universities, colleges, school boards, private firms and schools.

There is a key role in this program for a neutral, third party (Robert Isabelle and Associates in the case of the 1991-1994 experimentation) which promotes the implementation of the JEP, provides the technical support required by the partners and establishes the networks of educational providers. Furthermore, the neutral, third party helps the latter to develop new services (for example, prior learning assessment); it also uses pre-established criteria to select appropriate providers to deliver educational and support services while training their staff to function as sensitive workshop leaders and counsellors. Finally, the neutral, third party coordinates services, offers one-stop shopping for participants, employers and unions seeking information and contacts, and handles the administrative details for training and other services.

As can be seen, the JEP is a partnership model between employers, labour, educational providers and governments. It is distinguished by a holistic approach that is resolutely centered on the needs of the individual.

RESULTS OF THE JEP EXPERIMENTATION PROJECT

Piloted almost in its entirety throughout the three locations, the JEP proved to be a flexible approach, suitable for the unemployed as well as for active workers in medium-sized or larger industries.

It proved above all to be an effective approach, one that really works to achieve its objectives. In New Brunswick, all of the 28 participants attended the workshop and developed career and training plans. Ten required one-on-one counselling to finalize their plans. Twenty-two of them (78.5%) undertook training to become qualified for work. The Island Tel JEP recruited 34 participants whose jobs were being eliminated and 28 (82%) went into training. In Oshawa, in 16 months of full operation, 1,534 General Motors employees (about 10% of regional staff) registered with the program. In May 1994, 600 participants had completed over 1800 courses in various fields and 725 were waiting to begin courses.

The JEP experiment demonstrated that this program is a winning strategy for participants as well as for all partners:

- For participants, the program addressed the obstacles which had prevented them from getting involved in training; that is, the lack of information on the labour market and on available educational opportunities; the lack of funding; the lack of motivation, self-confidence and continuing support. Positive impacts identified were the development of personal responsibility, a successful return to learning, a more positive deportment on the job and, at General Motors, the first steps towards a "learning culture".
- Among the positive impacts anticipated on participants (but not verifiable within the parameters of the project) were re-entry of the unemployed into the work market; enhanced skills, full development of potential, and greater productivity for the active workers; and, in the case of lay-offs, the capacity to find new jobs or to create them, as opposed to suffering the demoralizing effects of unemployment.
- At Island Tel, the model met the company's expectations, facilitating both a return to learning and an increased mobility on the part of some employees whose jobs were being abolished. Moreover, the official in charge of the program noted that it had improved employee morale. According to the same official, the JEP is a minor investment, since training activities all take place outside working hours.
- As for General Motors, the company felt that the JEP approach could improve productivity, company-union relations and competitiveness, and that it could also facilitate downsizing. GM therefore decided to implement the program in all its Canadian plants.
- With the realization that they could no longer fight realistically for traditional job security and that serving their co-workers well meant backing an initiative aimed at providing them with employment security, leaders of Canadian Auto Workers Local 222 fully supported the Oshawa JEP. They also included the program in their collective bargaining.
- All the educational providers were pleased to participate in the pilot JEPs. They set up new services such as returning-to-learning workshops, career and academic counselling in the workplace, prior learning assessment and cooperative education. At General Motors, they offered many courses and held an educational fair at the plant. They also adapted their calendars and timetables to workers' needs. Thanks to such participation, they located new clients and revenues, along with enhanced opportunities for the professional development of administrators, staff and faculty members.

- As for Human Resources Development Canada, the easing of the Project Based Training Program criteria to allow 12 participants of the Acadian Peninsula JEP to go into different kinds of training (rather than being confined to only one kind) saved about $70,000, according to the Bathurst Canada Employment Centre (CEC) representative on the program's advisory committee. In the same pilot, a leader of the 15-hour workshop who had been a frequent facilitator of the Bathurst CEC's 12-to-20-week pre-employment course discovered that this workshop satisfactorily replaced the older one by appealing to the autonomy of participants. It is therefore possible to conclude that the Acadian Peninsula JEP increased the efficiency of certain programs offered by Canada Employment Centres.
- It should also be said that the three pilot JEPs generated anticipation of other positive impacts for Human Resources Development Canada, such as a preventive measure against unemployment for active workers (i.e., a proactive labour adjustment system); lower unemployment insurance expenses; enhanced taxation revenues; a more prosperous economy; and a more economical and effective social security system.
- Another important outcome of the JEP experimentation was the increase of employer investment in the development of employees. Island Tel, for instance, paid for all program activities from the outset; and in December 1993, General Motors decided to pay for all the services included in its program. Employers who agree to pay for educational and training opportunities based on the personal aptitudes and desires of their employees, as well as for related educational and support services, quite possibly constitute a phenomenon unprecedented in Canada.

ASSESSING THE COST-EFFECTIVENESS OF JEP

One basic question remains to be answered. Is the JEP cost-effective? Given the limited period for experimentation, it proved to be impossible to arrive at a definite answer; however, indications from the project as well as from the longer-term American experience would seem to emphasize a high degree of cost-effectiveness. According to the Island Tel official responsible for this pilot, for instance, the program is:

> ...an enormously cheap investment. The employees give their time for free, which is normally the highest cost of training. So we pay $500. and they give 100 hours of their time! And I don't care what anybody says, there is a tremendous pressure on somebody who enrolls in a university course not to fail (Dean and Flanagan, 1994).

Also, as previously remarked, there is a $70,000 savings realized by the modification of the Project Based Training Program criteria to meet participants' needs in the Acadian Peninsula JEP; and a significant savings in that same program made by substituting the JEP's 15-hour workshop and one-on-one counselling for the CEC's 12-to-20-week pre-employment course.

In the United States, a major industry estimated the costs of its JEP (including the third-party costs) "...as only 30 per cent of the benefits realized" (Sheckley et al, 1993).

FACTORS UNDERLYING THE SUCCESS OF THE PROJECT

Based on their interviews with participants, project team members, and partners for all three pilot JEPs, the external evaluators identified several factors which account for the success of the project (Dean and Flanagan, 1994):

- The JEP philosophy: applied education/training based on the interests, skills and aptitudes of participants rather than on program or administrative requirements; eliminated obstacles to training; set out realistic career and training plans; and gave participants the responsibility for their own personal and professional development.
- The model's holistic nature, including such components as prepaid fees; provision of workshops to develop career and training plans; one-on-one counselling; follow-up of participants in training; and prior learning assessment.
- The role of a neutral, third party: provided leadership in the organization of JEPs; facilitated cooperation between partners and the timely introduction of innovations (especially prior learning assessment); ensured the organization and coordination of activities as well as the choice of training providers and quality control of their services; kept a sustained focus on participants' interests; and was perceived as credible, objective and competent.
- The role of joint committees: provided project support; defined parameters and objectives of the various pilot JEPs; performed active outreach to participants; softened the Project Based Training Program criteria in the Acadian Peninsula; facilitated problem-solving and resource-sharing; and fostered a new type of relations among the local CEC, educational providers, employers, unions and other social partners.
- The role of educational providers: created a new type of collaboration within their own networks and with the industry; developed new services such as workshops, prior learning assessment and cooperative education; conducted educational activities on work-sites; and implemented flexible course timetables.
- The role of HRDC/Innovations: provided financial assistance to set up the three pilot JEPs, including almost all of the model's components, thereby endowing the project and the proponent with an essential credibility.

While all these factors were seen by evaluators as interlinked and essential to the model as a whole, the factor singled out as absolutely pivotal was the role of the neutral, third party.

CONCLUSION

In 1994 an evaluation report was published on the Joint Employability Programs of three American companies (Flynn et al, 1994). Two of these companies were large, while the third was relatively small (95 employees). The impacts and outcomes of the programs were basically comparable to the results identified through evaluation of the program tested in Canada

with a group of unemployed people, a medium-size company (Island Tel) and a large company (General Motors). Both evaluations demonstrated that Joint Employability Programs are just as effective when implemented for the unemployed as they are in working with small, medium-sized and large industries.

Additionally, these evaluations point to the significant role that Joint Employability Programs can play in the improvement of labour markets and national economies challenged by the new economy, as is the case in both Canada and the United States.

It is to be hoped that both federal and provincial governments, as well as unions, organizations concerned with labour force development, and educational organizations, will join together to promote and support the dissemination of this model throughout the country. It seems clear from analysis and evaluation that such an effort must emphasize the role of a neutral, third party—the powerful factor identified as primarily responsible for the success of the Joint Employability Program.

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Education-Business Partnerships in Finland

by Tuomo Lähdeniemi

HISTORY

Cooperation between schools and workplace was taken for granted in the early days of industrialization. In Finland, quite a few schools were established by factory owners for the children of workers, and children as well as parents contributed extensively to the labour community, especially during their holidays.

However, as both school and workplace developed, notably during the 1960s and 1970s, the schools were transformed into secluded communities closed to outsiders. Similar developments took place in industrial life, where factories were surrounded by fences and guards were posted at the gates. It became increasingly difficult for outsiders to know what was actually going on inside the factory.

These developments created a climate of mutual ignorance in which school teachers and students had no idea what modern working life required from graduates, and corporations did not know what they needed from the education system. The values and attitudes of schools and the workplace became strangers to each other.

Awareness of this separation began to emerge about halfway through the decade of the 1970s, with some public acknowledgement of the need to provide students with the knowledge and skills they needed in order to make the transition into the workplace.

THE PROJECT "YOUNG PEOPLE AND INDUSTRY"

By the beginning of the 1980s, the situation had become so grave that it was difficult to hire young people at all; the most talented youths did not want to enter industrial professions, so industry had to be content with lower-than-average employees. The result was a permanent labour force shortage, both in terms of quality and quantity of participation.

Industry leaders began to take seriously the reality of schools needing improved information on the business community. Employer organizations, together with the Economic Information Bureau of Finland, received a significant commitment of resources towards the development of improved cooperation between schools and corporations.

The following priorities were identified as goals:

- To improve the quality of young people's knowledge about industry;

- To guarantee an opportunity for young people to get professional experience in industry, thereby contributing to better-informed career choices; and
- To increase the number of companies investing in youth apprenticeship activities.

SUMMER JOBS

The issue of the quality of information available to young people was addressed by developing materials especially targeted to the needs and expectations of that audience. Opportunities to obtain personal experience in the field of professional work were offered within the scope of a special summer job campaign.

The results of both activities over the past ten years have been excellent in terms of enhanced knowledge and improved attitudes towards the workplace on the part of young people. It is especially noteworthy that those students with summer job experience possess a measurably positive attitude towards the industrial professions.

ACTIVE STUDY VISITS

Although corporations were initially reluctant to become involved in the youth program due to scepticism about the returns on their investment, the positive results of the program have changed corporate attitudes over time. When the economy was in a boom period, the program objectives were visibly realized; however, as unemployment increased, the summer employment program began to suffer. Because jobs must be offered first to those who have been laid off, a diminishing number were available for students.

Despite the recession, corporate participation in other school-company cooperative activities has remained reasonably good. Even where operational volumes of students involved in work placements have not been increased, certain investments in quality have been carried out. In particular, what were once poorly managed student visits have developed into effective study excursions. Corporations have trained staff whose job it is to offer guidance to young visitors, and students are required to present a written report of the site visit for an audience that includes a company representative.

WORK EXPERIENCE

In Finland now there is provision in the school curriculum for a continuous process of work experience from the first to the final grade of comprehensive school. In practice, however, this experience is generally associated with Grades 8 and 9, and takes place over a period of about fifteen school days in total, although there are some differences from one municipality to the next.

Work experience has, over the past few years, become a vital feature of the upper levels of the comprehensive school as well as in the senior secondary school. Work experience placements are now arranged by the local school authority or guidance counsellor; employers are sent questionnaires regarding available places, and matches are then coordinated.

At present, businesses view work experience in a favourable light. According to a training and labour survey by the Finnish Employees' Confederation, nearly half of all companies are involved in work experience placements; these companies represent every branch of industry and all regions of the country.

SCHOOL AND INDUSTRY TWINNING

School and industry twinning refers to a program instigated by the Economic Information Bureau in the mid-1980s in Finland. Under this program a company "adopts" for a period of several years a school class that is usually located in the same area.

The initial step can be taken by the school class, by the company, or by a third party such as the local school board or Chamber of Commerce, as long as both school and company have clearly appointed contact persons who will remain for the duration of the twinning and who are aware of the significance and goals of the relationship. A special file is maintained in both school and company workplace for the purpose of ensuring continuity in the event of staff changes and to avoid duplication. This program taps into student interests and priorities as a basis for activities in an effort to keep the momentum going over a period of years; efforts are made to involve as many teachers as possible.

Examples from the wide range of activities that have been implemented include: reciprocal visits between school and work, editing a staff paper, photographic competitions, camps, parents' evenings, club activities, and equipment loans. In the summer of 1992, for example, one class made its own ice-cream, with the incentive of sharing in a portion of the revenue if the product were successful.

According to a training and labour survey conducted by the Finnish Employers' Confederation, 350 industrial enterprises and nearly 300 school classes took part in twinning activities in 1991, and the program reached all areas of the country. Large companies were most likely to be engaged in the program—which tended to attract sectors like forestry, joinery, metalwork, and engineering.

The model initially was based on a three-year twinning agreement beginning in the seventh grade of the comprehensive school. Now, activities are firmly established, and the emphasis has shifted to flexible relationships geared to local conditions. Depending on the structure of the local economy, a company can adopt an entire school. Activities can begin in the elementary grades and continue up to senior secondary and vocational education.

These relationships require continuous close attention, for inadequate commitments of time and personnel can result in the collapse of an entire project.

ENTREPRENEURIAL EDUCATION

In 1995, entrepreneurial education became a reality for the first time in the comprehensive school. Since then, in response to the rapid changes occurring in the workplace environment, schools have developed

combinations of subjects intended for inclusion in this program. In the same year, entrepreneurial education was written into the basic curriculum of senior high schools and vocational schools. At present, entrepreneurial education forms a continuum from the lower level of the comprehensive school right through to the vocational schools. Despite differences in content, the programs are united in their goals.

Entrepreneurship projects in schools derive almost without exception from a theoretical starting point that posits a complex combination of predisposition and acquired know-how and expertise on the part of the individual entrepreneur. Part of the educational requirement, therefore, consists in training for sub-areas or features that have been part of larger educational goals throughout history. Rather than being simply focused on individual or group activities within the current labour market, then, entrepreneurial education is based on theory that is derived from historical precedent.

THE FUTURE OF COMPANY/SCHOOL COOPERATION

A difficult economic situation that involves spiralling unemployment has slowed the development of school communities in Finland. However, educational programs have been redirected to accomodate a period of practical experience in support of almost every school subject.

There has been a positive shift in the attitude of teachers towards training materials that come from outside the school system. Within corporations, the biggest problem has turned out to be locating appropriate contacts for collaboration. Generally, once the contact is established, other problems are resolved.

Because of high unemployment, unions of employers and workers entered into an agreement regarding student employment in the summer of 1992 which allows for students to be employed for a limited time at pay that is below the minimum wage scale. For the first time, school-company cooperation developed as a joint effort between employers and employees directed to the benefit of young people.

Information Technology Change Agent[1]

by Bengt J. Lindström

INTRODUCTION

This is a brief description of a project which has as its primary objective an increased use of information technology (IT) among small-sized enterprises in rural and sparsely populated areas of Sweden. The concept is one of "train the trainer", using a few entrepreneurs as local IT agents and consultants.

The Swedish National Board for Industry and Technical Development (NUTEK) is seeking models, methods and examples to help small-sized enterprises (usually under fifteen employees) to become more competitive. One such tool is information technology; and the main challenge is how to help entrepreneurs understand how IT can be used to render their businesses more effective.

THE "IT" CHANGE AGENT PROJECT

In cooperation with NUTEK and six sparsely populated municipalities in the northern and western parts of Sweden, the Institute for Computer-Aided Management (IDF) initiated a project under the name Information Technology Change Agent (IT-förändringsagent). The purpose of this project was to develop and test different methods for achieving a more widespread and effective use of information technology within small and medium-sized enterprises in the field of business development, and to improve communications in these enterprises through the use of IT.

To enhance the possibilities for achievement of project goals and the successful implementation of change, it was suggested that a resort centre be combined with the IT-centre, which would ensure that businesses and the region as a whole would receive support in terms of equipment and skills and enhance their opportunities for creating new business connections. The resort centre could function as a meeting place for local enterprises as well as for business representatives from outside the region; it could also act as a resource within an IT-centre that supports local enterprises, organizations and population within its area.

Seminar

The project was designed for a three-phrase delivery: seminar, workshops and a development program. The seminar took place at Storhogna, where about fifty small-sized enterprises were exposed to lectures on the uses and

benefits of information technology by companies and organizations with a long experience of IT. The seminar was considered extremely successful by participants, all of whom wanted to continue to the next phase of the program.

Workshop and Development Program

The purpose of the workshop was to choose a limited number of enterprises to achieve a deeper understanding of how to use IT on both a theoretical and a practical level. In return for this training, the companies selected agreed to work together with project managers to develop the design and content of a development program.

The aim of the development program was to educate a number of local entrepreneurs within a period of about two years to become local agents and consultants in information technology. Consisting of theory as well as hands-on practice with a variety of IT-solutions, the development program also offered support to the entrepreneur in developing his or her own company as a model of IT competence, equipment and practice. This part of the program also focused on presentation skills and pedagogics, helping IT agents to become models of excellence in their field.

THE IT-CENTRE

An IT-Centre (ITC) is an organization that can either be situated in one place, or spread out over a larger area and connected via an IT-network.

The purpose of these centres is as follows:

- To offer courses, workshops and seminars to educate and train people in the uses and benefits of IT;
- To act as mediator in matching suitable model enterprises with IT consultants; and also to assume the role of consultancy itself;
- To help organizations and enterprises to apply for various IT investments;
- To represent the municipality in the effective facilitation of IT within that centre's organizations and enterprises; and
- To help organizations and enterprises in choosing and purchasing IT and formulating appropriate policy to govern the use of IT.

RESORT CENTRE

A resort centre is an organization designed for mutiple access to modern IT equipment and supporting skills and knowledge in a location attractive to tourists. It is hoped that such a resort centre will attract businesses from outside the region whose employees may later become regular tourists. Exposure to businesses from away might also facilitate cooperation with local firms and enterprises, as well as encouraging the establishment of new organizations.

COMBINATION RESORT CENTRE AND IT-CENTRE

Combining the Resort Centre with the IT-Centre establishes a place for local IT agents to combine resources such as equipment, software and skills. In

this way, resources can be used more efficiently and local entrepreneurs have access to support at close proximity. In addition, the resort centre can function as a meeting place for entrepreneurs. Another positive effect of this combination is that the municipality's companies and organizations have access to the latest IT training available, in the form of courses, workshops and seminars.

Editor's Note

1. Known as *IT-förandringsagent* in Swedish.

Distance Education at Work

By Betty Rohdin

INTRODUCTION

The following two questions will be addressed in this paper:

- Can distance education be used as a means to change and develop a given organization?
- What benefits are there in this way of education?

In response to these questions, I will provide an overview of a program offered by Växjö University, in cooperation with the AMU company. The "Pedagogy for Educators" program was originally designed for teachers and other staff working in the area of labour market education—the domain of AMU, a state-owned company responsible for providing the labour force with continuing education. Although many of their educational programs are directed to the unemployed, a large proportion are presented through an extended campus network. AMU centres can be found from Kiruna in the very north of Sweden to Ystad at the most southern tip.

This paper focuses on a program aimed at enhancing pedagogic competence and skills among AMU staff who lacked formal training. The program was part of a policy to enhance the general quality of the educational programs within AMU, as well as to strengthen specific competencies of staff workers.

The following scheme may be helpful in understanding the concept of competency:

	Unreflected Knowledge	*Reflected Knowledge*
No Experience	1. "Don't know + Cannot"	2. "Know + Cannot"
Experience	3. "Don't Know + Can"	4. "Know + Can" = Competence

Some of the potential students for this program might be located at the competency level found in Box 3. Although most AMU staff are very experienced and often highly functional in their positions as educators, they seldom know why they are doing what they are doing: these are the educators who can end up in a professional "familiarity trap". Without critical dialogue, their teaching is not likely to improve significantly.

The overall aim of the "Pedagogy for Educators" program was for all participants to eventually reach the stage of competence captured in Box 4

above, which would represent a balance of professional knowledge and general theoretical knowledge. As offered by the university, this program was equivalent to ten academic points, which in the Swedish system refers to ten weeks of full-time studies.

One of the preconditions stipulated by AMU was that employees could not be absent to any significant extent; and they must maintain a normal level of activity on their jobs. The employer provided participants with two hours a week to meet and discuss the contents of the course.

The target group was homogeneous in some respects, but diverse in others. For instance, some staff held university degrees (including Master's degrees), while others had a relatively low degree of formal education, for instance a seven-year primary school level. Furthermore, the staff differed radically in terms of training in their area of work and professional culture. A former English teacher could be found in the same group as a welding operator, for instance. What they all had in common was that they were employed by AMU.

PEDAGOGY FOR EDUCATORS: COURSE CONTENT

The program contains three major course modules: Social Psychology, Adult Education and Project Work. The guiding principle has been to use each participant's experience as a resource for self-reflection; courses focus on what participants do in their professional roles.

Identification of concepts and a broader knowledge of theory are key components of the program. Following is an example of the aims of a study group:

- To demonstrate an understanding that the teaching process can be viewed in a variety of ways, depending on the underlying view of human nature.
- To reflect on the role of a professional educator as well as on the individual's concept of the learning process.
- To present and define some of the fundamental concepts of learning theory.

The choice of pedagogic model was influenced by two main factors: AMU was already a well-functioning organization; and participants could not be absent from their jobs for more than a few days. The model that Växjö University adopted was this:

XX – 0 – 0 – ≈ – 0 – 0 – 0 – 0 – ≈ – 0 – 0 – ≈ – 0 – 0 – 0 – ≈ – XX

– = Distance studies
X = Central seminar at the University
0 = Local seminar at the Study Center
≈ = TV Broadcasts

Two seminars and/or discussions are held at the university, one at the beginning and the other at the end of the program. In between, sessions are held locally.

Central Seminars/Discussions
The program starts with a two-day meeting at the university, which functions as an introduction to university services such as administrative staff and library. Following is an itinerary:

Day 1:	
13.00-14.00	Introduction of program director, participating lecturer, and students. Photos are taken which will be mounted in photo albums for participants.
14.00-15.00	Presentation of the aims, content and organization of the program (also outlined in the study materials). Discussion on the special conditions of distance education and the demands it places on students.
15.00-15.30	Coffee Break
15.30-17.30	Introductory lecture, providing a context in which to understand the subject under study.
17.30-18.30	Group discussion, sometimes in conjunction with a group activity designed to help students get acquainted.
19.30	An informal activity to encourage participants to get to know each other on a more personal basis. This is crucial, as learners are in close contact throughout the program.
Day 2:	Various lectures and group discussions, workshops and assignments.

Local Seminars/Discussions
These sessions may take place at work or at home. The course director has the choice of formalizing local sessions or encouraging students to meet independently. We chose to formalize sessions by requiring students to complete group assignments.

The aim of local seminars and discussion groups is for participants to reflect together on course literature, assignments and relevant questions. Sessions must embrace the concerns of both sexes, a variety of ages, widely diverse experiences, and a broad spectrum of views on education. Assignments are designed to engage participants in reflection, discussion and critical evaluation of their own professional situation. Also, it is through assignments that students and their instructors exchange ideas and experiences. Following is a representative example of such an assignment:

> Select a chapter from book, laboratory materials, or exams used by you or your colleagues at AMU. Analyze it in light of the following questions:
>
> - What kind of knowledge is it intended to transmit? Is it pure facts, applied knowledge, values, or something else?

- On which learning theory is this knowledge based, behaviourism or cognitive theory? (Utilize lecture materials in your analysis.)
- Would it possible to alter or replace this learning theory? What would the books, laboratory material, or exams look like then?

Enclose the material you are analyzing so that we may comment on it.

TV Broadcasts

During the course, we broadcast four TV programs. These are intended to be "expertise lectures"; they also provide students with course information and personal feedback. Different programs have had a variety of set-ups and content: for instance, the first program was a lecture in social psychology in which students had an opportunity to call or fax questions to the instructor; the second program was a discussion between the newly-appointed director of AMU and its Educational Branch chief executive. As program director, I chaired the discussion.

When students were about to begin their Project Work, we broadcast a program in which instructors and professors discussed various research methods and relevant methodological considerations. For the final broadcast we invited ten students to present their projects on television.

A careful evaluation of the television programs revealed that they were the most important means of creating and maintaining group cohesion among the students. Participants commented favourably on these programs, for instance:

> We feel like a group, and it feels highly exclusive to have people on TV talking just to us (Program Evaluation 940215).

Communication Between Instructor and Student

Daily contact between students and instructors takes place via telephone, fax, letter or Internet, for those who have access. When study groups meet at the workplace, speaker phones can be used to facilitate group tutoring by telephone.

CONCLUSIONS AND REFLECTIONS

What have we learned? To this point, 380 teachers and staff at AMU have enrolled, and approximately 75 have completed the program. The reflections and conclusions which follow are based on a partial evaluation.

The fact that students have such diverse backgrounds has made the program valuable to everyone involved. Open discussions have been productive in promoting self-reflection and a more critical stance toward the individual's professional role, which in turn has led to greater mutual understanding amongst learners. As I see it, the fact that instructors with a practical orientation have worked with more theoretically-oriented instructors has facilitated an open and creative climate.

Furthermore, a comment frequently made by students at the end of the program is that they received confirmation for what they had thought to be correct. This kind of comment demonstrates an ability to reflect on the learner's professional role, as well as the sense of enhanced professional

competence and personal satisfaction embodied in the stance of the learner in Box 4 on page 106.

Before this program started, the great disparity in age, professional and educational backgrounds and independent studies among students was a matter of concern to the instructors. The conclusion we have drawn, however, suggests that those learners with less formal education compensated with life experience. Overall, it was this category of person who seemed to have a more open attitude toward new learning and who undertook the learning in a highly independent manner. On the other hand, those who had studied extensively at a formal level tended to have greater difficulty in understanding that the responsibility for a successful education lies in the hands of the student as much as the instructor.

Another important learning for instructors is that students who had early negative educational experiences can overcome this legacy with constructive feedback, significantly improving their abilities. In fact, these students can accomplish wonderful things. For them, successful completion of the program brought about a strengthening of self-esteem, which has a positive impact on their personal lives as well as on their work. They left the program with a greater sense of security and confidence in their professional roles. This finding stands in opposition to the very common conception in Sweden that distance education does not suit people with low education levels.

The one negative experience we have had is the significant number of drop-outs, which can be very problematic, especially in those workplaces where there is only one student. But compared to the many positive outcomes of the program, we consider this to be a minor problem. Overall, the excellent results suggest that this is only the beginning of what is potentially a highly effective means of educating adults in the workplace.

Summary: Education, Training and Research in the Information Society: A National Strategy[1]

Presented by Helena Savolainen

Education and research are crucial factors for the development of Finland as an information society[2]. For the citizens of such a society to prosper, they must possess a good general education, a wide variety of capabilities to act and solve problems, and the professional competences and skills required by the continuous changes inherent in a working life based on networks. High-quality education and the balanced development of both basic and applied research are prerequisites for successful innovation.

In the information society, knowledge is the key resource. Advances in technology which facilitate production and improve communication have an essential effect on the structure, content and methods of education and research.

On 13 September 1994, the Finnish Ministry of Education set up an Expert Committee to prepare a national strategy for education, training and research in the information society. This strategy document contains both the Expert Committee's opinions and proposals for methods of utilizing information technology to raise the levels of education and research, thus improving the opportunities available to citizens to obtain and use information. A more detailed action program accompanies the strategy.

FROM ONE-SHOT TRAINING TO LIFELONG LEARNING

Networking methods and the changing requirements for professional competence demand that the education system is both flexible and adaptable. Educational authorities and organizations must promote networking of the education system and create open learning environments to support the development from "once-and-for-all" training towards lifelong learning. Individual study opportunities must be improved at all levels of education; study methods and teaching materials, as well as required information services, must be developed.

To ensure that the adoption of new teaching methods and the use of information technology is effective, their development and application must become a part of the everyday activity of universities and educational establishments.

BASIC INFORMATION SOCIETY SKILLS FOR ALL

The task of comprehensive school is to give every girl and boy the multifaceted basic skills and competences required to find and manage information and to communicate. These are basic requirements in the information society and are essential for further education. All levels of the education system should support the continuous updating of these skills.

Adults must have the opportunity to learn the basic skills of obtaining and managing information, communicating and understanding information technology. They must have the opportunity to improve these skills continuously.

VOCATIONAL SKILLS IN THE INFORMATION SOCIETY

Vocational education should provide such skills for living in the information society that correspond to the requirements of a networked working life, one which is continuously changing and becoming increasingly international. Educational authorities and organizations should together ensure that the initial and continuing education that supports the information industry is sufficient, at the right level, and of the required quality. A national goal should be that professional competence in the different sectors of the information industry in Finland is counted among the best in the world.

The know-how of professionals in the information industries needs to be extended to meet the diverse needs of changing job requirements. The introduction of information technology causes particular needs for change throughout initial and continuing education in the fields of library and information services.

FOCUS ON THE TEACHERS

In implementing the principle of lifelong learning, teachers' professional skills are absolutely essential. Teachers need not only to know how to manage and communicate information in their own field, they must also be able to teach methods of obtaining and using information to enable learners to work independently. Teachers should have the ability to use the media necessary for open and flexible learning and be able to modify and develop material in ways which make it suitable for them to use. The prerequisites and content of basic and supplementary teacher training must be developed to respond to these requirements.

DEVELOPMENT OF INFORMATION PRODUCTS AND SERVICES

The availability and competitiveness of high-quality Finnish information products serving education and research must be guaranteed.

Using the new methods which technology makes available, information resources need to be made available for both national and international use. To ensure that Finnish information services function smoothly as a part of a global electronic library, the technological capacity and know-how required to achieve this need to be developed.

The production, distribution and utilization of information products published in digital form must be increased in a variety of sectors, especially in education and training, research and public administration, and in the libraries, information services and archives which serve these sectors. Support is needed for Finland's emerging multimedia production facilities and related businesses through commissioned work and subcontract work.

RESEARCH IN THE INFORMATION SOCIETY

Developments in information technology impact all fields of research, from basic to applied. Nowadays, in almost all cases, information technology is an essential part of the research process. The prerequisites of scientific computing, such as adequate high-performance computing capacity, workstation facilities and high-speed network connections are crucial factors in competitive research.

Finnish universities and scientific research aim to be at the international forefront in applying information technology. Participation in the information technology program of the European Union should be active. Finnish education and research should be among the first to attain the goals set by the EU for applying information technology and telecommunications.

Developments toward the information society, the application of information technology and increased networking have far-reaching economic, social and cultural impact that requires further research. The focus of pedagogical research should be on the fields of media and learning, and on the interaction between humans and machines.

EDUCATION AND RESEARCH NETWORKS

The national information infrastructure, the Finnish Information Highway, should be assembled as a multi-layer, seamless system. The information network for education, training and research will be a part of a global open network. The Internet and emerging standards for broadband networks and services should provide the foundation for the education and research information network in Finland.

Schools and educational establishments must be integrated with their local environment. Links between schools and educational establishments at different levels and operating in different fields must be increased, and links with community and business life improved. The information networks should be structured so that they support these developments. The most effective technical way of achieving this is based on regional networking and cooperation.

Information network services are to be made available to all schools and libraries. An adequate level of service should be guaranteed to all educational establishments. Both scientific and public libraries must be guaranteed not only adequate facilities, but also the telecommunications links and expertise required to utilize these effectively. Special attention should be paid to the development of public library information network services and to the development of libraries as nodes in the open information network.

GENERAL FRAMEWORK

When implementing this strategy, many legislative and other special prerequisities must be taken into account. These include, among others, questions concerning copyright, standardization and privacy protection, as well as issues of openness, data security and the price that is charged for information.

In the information systems of education and research, the goals are openness and flexibility while at the same time making sure that personal integrity is respected in data processing which can affect individual rights. Openness and transparency are the aims for providing information on the work of public authorities which affects the lives of citizens.

In fixing the tariffs for publicly produced information network services, the nature of the service should be taken into account. The aim is to promote the use of information and services. The areas in which information network services are provided free of charge in accordance with the principle of public service should be defined. Areas where flexibility of pricing is possible should also be identified, as well as those sectors where the price of the service provided should reflect the actual cost.

Notes

1. In her presentation at Hanasaari, Helena Savolainen used this excerpt from the document of the same name, published by the Ministry of Education, Helsinki, FI, 1995.
2. Author's note: In Finnish, the word *tieto* stands for both "information" and "knowledge". Whereas this strategy addresses the more profound needs of the "knowledge society" rather than the "information society", the latter, more universally used term, is used in this document.

Education for the Sustainable Use of Swedish Forests

by Göran Sjöberg

INTRODUCTION

In Sweden, the forest industry is of great importance for the export economy. Swedish forests are heavily exploited for economically sustainable forest production, a result of effective lobbying on the part of national conservationists, changes in demand on the European market, and various international agreements.

In this paper I will present a brief description of strategic concepts such as "sustainable use" and "biodiversity", and in this context present some facts about Swedish forests and forestry and recent changes in forestry legislation and company policies. Finally, I will describe an education program developed to broaden the competence of Swedish forestry rangers at a time when their organization was faced with change.

Sustainable Use from a Biodiversity Perspective

Sustainable use and biodiversity are concepts that were highlighted at the UN Conference on Environment and Development held in Rio de Janeiro in 1992. A Convention on Biodiversity was developed at this conference, along with many other documents of importance to forest management and conservation.

Several interpretations of "sustainable use" are possible. For instance, in an economic sense a resource is considered to be used in a sustainable way if there is no threat to its long-term use. From an ecological perspective, sustainability implies that the use of natural resources does not put biodiversity or the biological integrity of ecosystems at risk.

Similarly, the concept of biodiversity has multiple meanings. It can be defined for species and genotypes, as well as other categories of life, and it can be studied on different geographical scales ranging from the local to the global. Maintaining biodiversity in forestry means that the number of species will not be allowed to decrease, or that certain types of species will not be lost over a specified geographic-temporal scale. It could also mean the preservation of certain types of habitats, ecological processes or interactions in the forest landscape.

Changes in Swedish Forestry: Combining Production and Conservation

Forest covers approximately 65% of the area of Sweden. The Swedish boreal forest is at the extreme west end of the Eurasian taiga; it is naturally relatively species-poor.

In the 1600s, forests in southern Sweden were depleted locally by forestry. The modern forest industry developed during the 1800s, and in 1903 a Forestry Act was passed which prescribed replanting after logging. In this way, an economically sustainable forestry was established. Paper, paper pulp and other forest products now number among the most important categories of export products from Sweden.

Today, less than 5% of Swedish forests can be regarded as naturally grown. In 1994, only 3.4% of the productive forest was protected in national parks, nature reserves or other conservation areas, and these are unevenly distributed around the country. Ownership of the Swedish forest is shared about equally between small private owners and large private or partially state-owned companies.

Modern forestry practices have incorporated networks of logging roads, clear-cutting, chemical fertilization and herbicide treatment. In the 1960s an intense conservation debate developed; since that time, much has changed. During the 1980s, conservation biology emerged as a branch of scientific studies which has had significant impacts on forestry practice. Forest conservationists have developed new methods for the easy spotting of key conservation habitats—methods which include the identification of key species of fungi and lichens that tend to be associated with old-growth forest.

The large Swedish forest companies are now finding that the European market is demanding forest products which are not associated with clear-cutting of old-growth forest or extinction of species. Caring for threatened species, even insects and lichens, can promote sales of paper products. The companies are now employing ecologists to improve their forestry practices and to initiate restoration projects aimed at re-establishing threatened woodpeckers or other bird species whose populations have become locally extinct. Company ecologists also plan forest inventories and educate employees. Today, all major Swedish forest companies aim at landscape planning to optimize both production and conservation.

In the Forestry Act of 1994 the goals of production and environmental management are given equal weight, in line with recommendations from the Rio conference. Currently, discussions are going on between the conservation movement and the forestry companies about the environmental certification of Swedish forest products.

EDUCATION IN CONSERVATION BIOLOGY FOR FORESTRY OFFICERS

The Swedish Forest Administration Faces Change

In Sweden, the Forest Administration (a branch of the Ministry of Industry and Commerce) is organized through the central agency of the National Board of Forestry and includes 22 County Forest Boards, each of which has several local ranger districts, for a nation-wide total of 141.

In the past, the work of the Forest Administration was focused on monitoring forestry legislation, for instance ensuring that replanting was done by private forest owners. Administration was also in charge of giving management advice to small-scale forest owners. At the same time as the need for controls on replanting decreased, the recent changes in forestry legislation dictated a new role for forestry rangers to meet a need for conservation information and planning.

This role requires that rangers serve as conservation counsellors and planners for small-scale private forestry. Although well-educated in forest production, trained in forestry schools, and sometimes possessing M.Sc. degrees from the Swedish University of Agricultural Sciences (SLU), forestry rangers needed an additional theoretical and practical competence in conservation biology.

Educational Program in Conservation Biology

Around 1990, discussions began in the County Boards of the Forest Administration concerning a conservation education program for forestry rangers. The SLU, as well as other universities, was asked to develop and market this education to the Forest Administration.

Since that time, courses in conservation education have been developed and presented to approximately 175 rangers. The majority of participants have been from the Forest Administration, but about 5% have come from forestry companies, county administration, and so on. While most courses were given by the SLU, other universities have also been involved.

The scope, content and methods of courses have varied with geographic area and instructor, but the primary objectives for ranger competency are common to all program offerings:

- To perform and evaluate field inventories; and
- To integrate production and conservation goals in all forestry planning.

Specific skills required by students in order to fulfill the broader objectives of training are as follows:

- Basic ecologic knowledge, including principles of conservation biology and landscape ecology;
- Good general knowledge of forest-occurring species of all taxa;
- Capability to identify high-quality forest habitats;
- Special knowledge of taxa that indicate the presence of such habitats.

Students must also learn how to apply conservation practices and conservation-adapted methods of forestry management at the levels of forest stands and landscapes.

A Representative Course Offering

As a concrete example of this program I will outline a course entitled "Forest Conservation Biology" that is offered for 15 credit points (roughly equal to 15 full study weeks). It has an enrolment of approximately 20 students from two counties, drawn primarily from the Forest Administration. The distance from their workplace to the university is up to 400 kilometres. Because this course runs at 25% of full time, it takes approximately 18 months to complete; students are paid by their employers. Students meet three or four times a year for three to four days each. Between study periods they work with course materials at home or undertake required projects.

The course is taught by teachers and researchers in conservation biology, forest management and forest inventory who come from the Faculty of Forestry at the SLU or from other universities; some serve as conservation ecologists for forestry companies. The kind of information presented by

these instructors is often not even available in scientific journals, and certainly not in textbooks; it is the latest data from the field, taken directly out of the computer. Examination is in the form of written tests, seminar discussions, and paper presentations.

In this course, the following areas of study are covered:

- Forest ecology;
- Taxonomy of forest flora and fauna, focusing on threatened species in particular;
- Conservation biology; and
- Conservation-adapted forest management and the restoration of habitats.

Students are responsible for a two-week project (carried out individually or in teams of two) in which they apply their knowledge to a practical problem faced in the workplace. Although performed on a small scale, many of these projects are on the cutting edge of current knowledge in forest conservation biology. Following are a few examples from a current list of student projects:

- Red-listed species in the northern part of the Ångermanland province: their ecology, and methods and strategies to secure their presence.
- Interpretation of infrared photo maps for search of key forest habitats for conservation.
- Mire Islands: fire refugia, or not?
- Effects of clearcut-burning on herbal vegetation layer in tree species.
- Performance and documentation of clearcut-burning and conservation-burning at one locality.
- A study of the habitat requirements of a threatened lichen species.
- Summer inventory of forest grouse: capercaillie, black grouse, hazel hen and willow grouse.

CONCLUSION AND QUESTIONS FOR FURTHER RESEARCH

The results of this training program suggest that it is very effective: students are highly motivated and eager to practice their new knowledge. Not only do they learn to understand and think critically about scientific data, but they establish important contacts between practicing forest managers and researchers, which leads to long-term cooperation. Therefore, this kind of education acts as a two-way communication forum in which various barriers can be broken down. With their new competence, forest rangers are able to provide counselling and education for private small-scale forest owners, helping them to adapt their forestry practice to the new demands of markets and legislation.

In this context, I would like to close by posing larger questions for future research in this field:

1. What is the fastest and most efficient way to socially integrate the results from ongoing research, such as the ecologic and economic sustainability of natural resources?
2. How can a process of feedback be established by which universities can adapt programs to the needs of certain educational target groups in society?

Academic Wisdom and Practical Action

by Pam Whitty

INTRODUCTION

In her 1912 essay "The Modern Woman" Helen Keller wrote about the disparity she experienced between life and the academy: "It simply happens, as it happens with many students, that such academic wisdom as I was privileged to share in did not touch the problems I met later"(1912/1920, p. 42).

Although Keller wrote these words eighty-four years ago, her observation remains relevant today. In particular, I find that it speaks to my work as an educator of adults at the University of New Brunswick where I teach undergraduate and graduate courses in early childhood, curriculum and cultural studies. The lack of connection between the educational theories taught at the university and the problems encountered in practice is a common refrain I hear in both the university and the school.

In this paper I describe changes made to a teacher education approach that were facilitated by my own reflective understanding of the university workplace, my past and present experiences in the workplace of school, and my desire to explicitly value, as well as to challenge, the work in both. The encouragement of colleagues in my faculty, and teachers and administrators in the schools—as well as feminist and critical theorists—have helped to transform the possibility of change into a concrete reality.

SHIFTING TERRAINS

The Teacher Training Model

The traditional supervisory model of teacher education, as Britzman (1986, p. 47) points out, is a training model. In a teacher training approach, theory is learned in the university, and the practicum requirement is enacted in the workplace of school. From Britzman's perspective, the teacher training model incorrectly assumes an immediate integration of educational theory with classroom practice. Britzman's analysis fits my experience over the last twenty years as a student intern, cooperating teacher, and for the past five years, as a university practicum "supervisor." Currently, as part of my teaching workload, I "supervise" student interns during their fifteen-week practicum in the schools.

When the interns enter their practicum classroom, they often leave the university behind, theoretically as well as physically. In my first year of

practicum supervision I visited five interns in five schools located at points around the province—a thoroughly fragmenting experience for everyone concerned. Typically, what I heard from the interns as they assumed the multiple aspects of their teaching role was that the school workplace was the "real world"; university learning had become unreal, in contrast to the accepted notion that theory and practice would be automatically integrated within the classroom. Suddenly the university was polarized from the school, devalued as the "other" world, and the challenge for me was how to connect the learning in both by moving the two worlds closer together.

The Teacher Education Centre

For the past two years, I have been the University Associate for a Teacher Education Centre. This project is specifically intended to replace the traditional supervisory model and encourage "greater dialogue between the faculty and the school, as well as amongst the interns and cooperating teachers" (Smith, 1996, p.2). The particular partnership I am involved with includes five early childhood practicum students, several cooperating teachers and the administrative staff of a local elementary school which houses just over 400 students.

In consultations which involve the school principal, our coordinator of field studies, the interns, and myself, placements are made with teachers who specifically request to be part of the practicum experience. An important consideration in my initial selection of a school as practicum site was that the principal and two of the cooperating teachers were actively involved in graduate work at the university.

Through the introduction of four major structural changes to the traditional program, we created opportunities for an ongoing dialogue that was dubbed "critical conversation"; these forums included clustering, "the switch", the seminar, and written conversations.

LINKING WORLDS VIA CRITICAL CONVERSATION

Clustering as Collegial Support

Perhaps the most visible change has been the placement of several interns in one elementary school, creating a concentrated focus for my work. No longer must I travel to five different locations; as well, grouping interns in one location disrupts isolation in a positive way. Interns are learning to develop collegiality early in their careers. The fact that most of the five already knew each other from various university classes helped support this sense of collaboration.

The physical proximity of the interns to each other—next door, upstairs, even at times in the same room—provided opportunities for continuing conversations with each other. When they spoke to me they frequently commented on the reciprocal curricular and moral support made possible by this proximity. They strongly believed that they were established as their own community within the school, and as such had a collective voice. The interns visited each other's classrooms; discussed the wide-ranging ways in which curriculum was applied; and organized with administration to discuss the kinds of questions they might expect at interviews. Because they had

shared university classes and were familiar with some of the same theorists, they could explicitly enact and critique theories of education in relation to their classroom experiences.

"The Switch" as a Broadening of Experience

In the traditional approach to the practicum, interns were placed with one cooperating teacher for the entire fifteen-week period. In the Teacher Centre approach, they are encouraged to switch their placements just past the midpoint. The intention of "the switch," as this particular aspect of the practicum came to be called, was to expand the intern's range of experience during the practicum period. The prospect of this transition aroused considerable apprehension on the part of cooperating teachers who were familiar with the traditional model, as well as with interns who expressed concern over a break in continuity with their classes. I persisted in asking everyone involved to adopt an open, experimental attitude toward "the switch".

In both years of the program, and regardless of the degree of anxiety, interns have felt the benefits of "the switch" almost immediately. For one thing, the exposure to new teachers and teaching methods is accompanied by the realization that there is more than one way to do education in the classroom. As Sherry Billings (1995) observed, "the switch" broke up the isolating pattern of one-intern-to-a-teacher. Another benefit is that interns have their sense of responsibility opened up to include all the children in a school, rather than the traditional, exclusive focus on a single class.

Based on their own economic and curricular needs, student interns negotiate the nature of their placements with the cooperating teachers, trying for a flexibility that will make them better equipped for the job market. For example, interns who had specialized in early childhood education choose an upper elementary placement; and one bilingual student selected an English placement first, followed by a French one.

Interns also practice peer instruction, explaining different aspects of classroom life, such as routines and projects, to the new interns who will inherit their classes. In some cases, interns visited classes or shadowed particular teachers for a few days, discovering in the process that most classroom doors are open to them. One advantage of such a limited visit such as this has been to allow teachers who want to be involved in the practicum to do so in a less intensive way.

Critical Conversations in a Weekly Seminar

From my perspective as a supervisor, one of the most serious drawbacks of a training approach was the lack of time available for interns to read and to engage in critical conversations. In an effort to provide a forum for such conversation, I redistributed my own workload in order to offer a practicum seminar. In order to sustain the seminar on a cost-recovery basis I needed fifteen people: in the first year I had six interns and nine students who would be doing their practicums in the following term. In addition to my classroom and school visits, I saw the interns as a group every week, greatly expanding the conversational forum.

The on-campus seminar provided a separate place for interns to reflect on their week in the school, and an opportunity to link their experiences

with the class readings. Intern seminars have included such topics as curricular integration across subject areas, and dealing with the gendered dynamics of the playground. Topics are chosen which do not breach child or teacher confidentiality. At the students' suggestion, we have invited math and literacy specialists to attend seminar sessions; the ensuing conversations underlined the importance of revisiting ideas learned at university during the period of the internship.

Following the two-hour seminars, I meet with interns for at least an hour to discuss any ongoing ethical issues. Together we brainstorm possibilities for action—and sometimes the wisdom of inaction. For me, this is the most intellectually and emotionally powerful time that I spend with interns, for our conversations are dynamic, critical and ultimately, reciprocal.

For the interns-to-be, learning about what they might encounter in the schools gives them an appreciation for the complexity of the school workplace as it is experienced by their peers. We all understand better the vulnerable position of interns, who are neither students nor workers.

Written Conversations as Reflective Thought

In addition to literally hundreds of conversations concerning multiple aspects of teaching and learning, we instituted a writing-and-response mode between interns, some of the cooperating teachers, and myself. Written conversations with the self generally occur in the interns' journals, which they share at their own discretion. We have discussed the ethics of journal writing and the handing-in of entries as prescribed in the traditional practicum format.

Another written form we use is letter-writing; I write to the seminar class in response to the weekly in-class conversations, and some interns write to their cooperating teachers, who then respond with additional insights into the teaching day. By the end of the second year, interns were writing letters to each other about critical incidents from their teaching day.

Each student intern is also required to write a final project for the seminar course. The objectives and content of all assignments for the seminar are co-constructed in class discussions and at individual meetings. Intern portfolios consist of samples of childrens' work (obtained with their permission) and photographs and other artifacts which could assist in job interviews; they also include a reflective written piece that details their learnings in both discrete and overlapping categories.

Interns-to-be could choose either to write a paper or to construct a teaching portfolio. Topics for papers included curricula on race, class and gender; authentic forms of evaluation; and child advocacy. Some prospective interns, awareness raised by seminar conversations on the complexity of school as workplace, decided to construct portfolios to take with them to their own practicum site. They reviewed the courses they had taken and pulled together scholarly and practical ideas they thought would be of benefit in practice.

CLOSING THE GAP

From my beginnings running from school to school doing a kind of patchwork training, things have come a long way. Indications of Teacher

Centre successes abound: the principal's open invitation to the university; the teachers' open-door policy; and the many opportunities for verbal and written conversations about the curriculum proper as well as social curriculum.

In a professional faculty such as education it is crucial to negotiate the gap between theory and practice; this project has provided a way for me to work with current and prospective colleagues to close that gap. The practice of clustering provides support from experienced teachers, university faculty and peers during the intern's transition from place of study to role of quasi-worker. As interns experience the strength in collectivity and negotiate their placements, recording critical incidents and reflecting on ethical dilemmas, they come closer to an understanding of what Britzman calls a dialogic image of teaching, in which "the tensions among what has preceded, what is confronted, and what one desires shape the contradictory realities of learning to teach" (1991, p. 8).

In privately held closing conversations with interns from both years, I asked two questions: what did you learn that you expected to learn and what was a surprise to you? Most of the interns expected to learn about the curriculum proper, how to plan and organize the teaching day; how to integrate curricula across subject areas; how to access resources; and how to interact with children whose prior knowledge and abilities varied widely.

Both years, student interns were surprised by the intensity of the social relations of power they witnessed in aspects of schooling that ranged from administrative structures to the gendered nature of playground dynamics. Many of them spoke of the challenges of advocating for certain children, and the difficulty of adopting and defending democratic practices which in essence contradict the hierarchical nature of schools. Interns expressed a strong desire to learn how to speak in clear and constructive ways about their beliefs in a context that makes them vulnerable.

The next challenge from my point-of-view is the full employment of these competent and highly conscious individuals. I cannot help but compare the isolation of elementary teachers in their separate classrooms with the positive collectivity experienced by these interns. The structure of school time and the intensity of the classroom place so many demands on teachers that interns in this program enjoy opportunities for flexibility, freedom of movement and insights into the culture of the school that most teachers do not have.

I am left with questions: I wonder how we can make critical and connective practices continuously available to teachers. Will those interns who have already worked collectively be able to extend their connections into their own working lives? Are they better prepared to negotiate the contradictory realities of the workplaces in which they will be teaching? With a study term pending, I am giving considerable thought to how I might continue my research with beginning teachers as an act of responsibility towards my own former workplace.

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